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Practical Pharmacy Edition

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Washington Views

President Dwight D. Eisenhower has proclaimed October 24, 1956, as United Nations Day and urges all citizens of the United States to demonstrate their faith in, and support of, the United Nations by means of community programs.

Leonard A. Scheele, Surgeon General of the U.S. Public Health Service, has resigned effective August 1 to assume the Presidency of Warner-Chilcott Laboratories, Inc., Morris Plains, N.J. In accepting Dr. Scheele's Resignation, President Eisenhower warmly praised the Surgeon General for his outstanding services.

By a record vote of 393 to 3, the House passed H.R. 1840 (identical with H.R. 11), a bill to strengthen the Robinson-Patman Act and amend the Anti-Trust Law prohibiting price discrimination. So far no action has been taken by the Senate.

An amendment to a bill (S.3430) to locate the National Library of Medicine in Chicago was defeated. The Library will be located near the U.S. Public Health Service of HEW in Washington or Bethesda, Md.

According to recent statistics from the Commerce Department, about 25% of the health and medical care costs for the civilian population of the U.S. is borne by Federal, State, and local governments.

The Bureau of the Census estimates the total population of the U.S. on May 1, including Armed Forces serving overseas, was 167,649,000. Such estimates are now based upon a sample consisting of about 35,000 interviewed households located in 330 different areas of the U.S.

On June 15, Spain became the 18th nation to ratify or accede to the United Nations Protocol for limiting and regulating the cultivation of poppy plants and protection, trade, and use of opium.

Bubonic plague (Black Death) has invaded the U.S. for the first time in five years and has resulted in one death, a retired Navy Chief Petty Officer, Andrew Paul Sakacs, Jr., who is believed to have been bitten by a plague-infected flea on a fishing trip.

A national meeting to commemorate the 50th anniversary of the Basic National Pure Food, Drug, Cosmetic, and Meat Inspection Laws in the U.S., organized by the Food Law Institute, the Association of Food and Drug officials of the U.S. and the Association of Official Agricultural Chemists, in co-operation with the U.S. Department of Health, Education and Welfare (FDA) and the

. . . and last-minute news

U.S. Dept. of Agriculture (Meat Inspection Branch) was held in Washington, D.C., June 27.

The Commissioners of the District of Columbia have announced that Morris Bortnick was named a member of the District of Columbia Board of Pharmacy on July 1 to succeed F. Royce Franzoni, a Past President of the American Pharmaceutical Association and of the National Association of Boards of Pharmacy. Mr. Franzoni has completed 10 years of service as a member of the D.C. Board of Pharmacy and at the time of his retirement from the Board was its President.

Retail sales in pharmacies and drug stores are expected to set a new record high in 1956. In spite of an increasing number of strikes, tightened money policies and President Eisenhower's health, total national sales promise to be the biggest in history. Ewan Clague, Commissioner of the Bureau of Labor Statistics, says that we can look forward to expanding business and industry between now and 1965, with 9,000,000 jobs being added to the present total.

The APMA and ADMA are currently considering establishment of a single new association to represent the pharmaceutical industry (see page 433).

Carefully planned publicity was released early in July for Warner-Chilcott's Releasin, a water-soluble extract of the ovaries of pregnant hogs, to be used parenterally (7 ampuls at $15 each) in premature labor (28th to 36th week) or abnormally timed uterine activity.

Dean Curtis H. Waldon is leaving the Detroit Institute of Technology to succeed retiring Dean Charles E. Poe at the University of Colorado College of Pharmacy.

Dr. Jacob Kulowski of St. Joseph, Mo., reports in the July issue of the Journal of the American Dental Association that nearly half the victims of automobile accidents suffer serious injury to their faces, including damaged teeth and jaws.

During 1956 nearly 12,000 new babies are expected daily, which will mean 86 new babies for each drug store in the U.S., on an average.

The National Opinion Research Center, in co-operation with the Health Information Foundation, found that 80% of the people interviewed endorsed the idea of an annual physical check-up, but only 29% of this group followed their own advice, it was brought out during the AMA convention in June.

LETTERS

A Board of Pharmacy Appeals

Sirs:

It has come to the attention of the Members of this Board that registered pharmacists taken into the armed services are not being used in their professional capacity. Our information indicates that, while there are sufficient pharmacists in the armed services to properly supervise the filling of prescriptions and to dispense medication to all installations, many such installations are manned by non-graduate, untrained personnel, while many pharmacists are assigned to duties not even remotely connected with their profession or within the scope of their training.

At the present time, California is suffering from an acute shortage of registered pharmacists. Our records indicate that several hundred of our licensees are serving in the armed services and these as civilians could be used to good advantage in the interest of the health and safety of our citizens.

We respectfully request that inquiry be made into the necessity of drafting licensed pharmacists and as to the possibility of releasing those presently in the services whose duties are not essential to maintaining the health of armed services personnel.

This is a problem confronting all of the Boards of Pharmacy in the nation and any effort to correct the condition will be greatly appreciated.

California State Board of Pharmacy
Harold B. Garfield, *President*

Editor's Note: This is a copy of a letter which is being sent to all California legislators by the California State Board of Pharmacy in an effort to obtain deferment for registered pharmacists and to release those whose knowledge and training is not essential to the armed services medical program.

Lynch Quotation Identified

Sirs:

In your May issue (*Practical Pharmacy Edition*), page 345, is the following from the remarks of Chairman James J. Lynch:

> "I am reminded of the words of an author unknown to me, who said, 'On the plains of hesitation bleach the bones of countless millions who, at the dawn of victory, stopped to rest, and waiting—died.' "

This quotation was used by Governor Stevenson in the 1952 campaign referring to the Korean War.

It was originally written by William Lawrence for a 1923 "ad" of the International Business Schools.

Sometimes the brain children of the men in the grey flannel suits do manage to survive.

New York, N.Y. William E. Daly

"Lost Sheep" Remedy

Sirs:

Here is a copy of the city ordinance which will help some of those "lost sheep" get back into the drug store.

It is the first such ordinance in North Dakota and it is prompting other cities to act accordingly.

We are now working on an ordinance to get drugs out of the supermarkets and other non-drug outlets in the city of Fargo. Results are encouraging.

Fargo, N.D. Jerry Lester

Editor's Note: Drug Topics is currently running a series of articles on "Lost Sheep—drug store commodities which are being sold in non-drug outlets." The ordinance referred to is one by the Board of City Commissioners of Fargo, N.D., dated June 9:

> It shall be unlawful for any person, firm, corporation, co-partnership or association (excepting as provided in Section 2 hereafter) to sell, keep or offer for sale or otherwise dispose of any drug, medicinal preparation, appliance, device or article intended or having special utility for the prevention of venereal disease; and in no event shall such commodities be disposed of through the medium of a vending machine... Every person, firm, company or corporation convicted of a violation shall be punished by a fine of not more than One Hundred ($100.00) Dollars, or by imprisonment for not more than ninety (90) days, or by both...

Exempted are practitioners of medicine, wholesale druggists, and licensed retail establishments.

Pharmacy as a Whole

Sirs:

I trust that you will continue to strive in your efforts to make pharmacy a worthwhile profession. I hope that in the years ahead all pharmacists, including pharmacy owners, retail pharmacists, and hospital pharmacists, will coordinate their efforts because we all have the same objectives in common.

There are still many retail drug store operations that are just the worst kind of blight on the business scene today. These sub-standard operations present a facade to the public that wouldn't even do honor to a junk dealer or an oriental opium den. Pharmacy has got to police itself; the Boards of Pharmacy are doing a real job in some areas, I suppose, but we need more enforcement and we need and want a strong national association to lead the way.

I want to know what the new ointment bases are, what the new technical discoveries are, but I want, even more, an Association that is leading, doing and accomplishing things for pharmacy as a whole. It is very easy to retreat into a shell or an ivory tower—perhaps I am thinking of hospital pharmacy now—but we must realize that all of us should be concerned with what goes on in the whole picture of pharmacy. What happens if we separate into die-hard groups? These groups within the profession may very likely become malignant and the malignancy will spread and encompass the entire body.

Let us not forget the men and women on the active front right now. They must have the opportunity to avail themselves of all of the advances, so that they can go along with the march of progress. Every single pharmacist must have this opportunity to keep up-to-date, and the A.Ph.A. publications should accomplish this.

San Diego, Calif. Samuel Rosh

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21	3	49.0%	50.7%	49.0%	48.7%	49.0%
11	1	46.7%	48.4%	46.7%	46.3%	46.7%

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STRAIGHT FROM HEADQUARTERS

ROBERT P. FISCHELIS, SECRETARY

Pharmacy Internship Control

THE matter of providing adequate practical training for the college graduate in pharmacy continues to be a topic for discussion at meetings of pharmacists. More and more, those who have advocated some form of "controlled" experience are listened to with greater interest. It is now generally recognized that if the practical experience requirement in the pharmacy laws of the various states is to amount to anything, it must be adequately supervised and it must be arranged on a basis which will not waste the time of the recent graduate who is looking forward to providing an adequate pharmaceutical service to his clients or to the patients in a hospital.

One must always be suspicious about the formulation of technical requirements for any form of education which are stated in terms of hours, days, and years, without providing for the content of the courses offered. A good teacher and a good student are the ideal requirements for the meeting of minds which is essential to the success of the educational process.

When it comes to internship in any of the professions, there is, of course, a wide variation in the quality of experience offered and the competence of those who are expected to act as instructors or preceptors. The fact that a pharmacy internship is carried on under varying conditions makes its quality difficult to estimate. Hospital pharmacies, with their concentration on the production and dispensing of drugs under more or less ideal conditions, offers a fine supplementary training to the courses in a college of pharmacy. However, if the hospital pharmacy is conducted merely as a "drug room," the intern is not apt to gain very much in the way of experience.

If the retail pharmacy in which the recent graduate expects to obtain his applied training and experience is one in which prescription activity is low, he will miss a great deal of the value of the training period, although one must not underestimate the value of the personal contact with hundreds of people in all walks of life who come to the pharmacy to seek information on health matters and who frequently purchase drugs on their own initiative.

Pharmacy laws or regulations which do not require that the pharmacy, in which the prospective pharmacist is to obtain his practical experience or internship, must be approved by the Board of Pharmacy for that purpose, can be the cause of much waste of time for the intern. But even if a pharmacy merits State Board approval for internship, it will not be a proper place in which to obtain practical experience unless the proprietor or the pharmacist in charge has some feeling of responsibility for the training of the intern and some ability to impart knowledge of the right kind. Above all he must have high concepts of ethics which will assure the right attitude as well as aptitude in providing adequate prescription and other pharmaceutical service.

Beginning on page 459 of this issue of the JOURNAL, Dr. Louis Busse of the faculty of pharmacy of the University of Wisconsin gives expression to some controversial thoughts with regard to the supervision of internship. Suggestions which he offers have been made before, but perhaps they have not been so definitely and well stated. Certainly, there are pharmacists in active practice who are competent to train other pharmacists in the modern practice of pharmacy. If there are enough of these, it would seem that it should not be too difficult to enlist their services as preceptors or teachers who could function in their own pharmacies.

How receptive the profession will be to the plan of supervision of internship by the colleges, as recommended by Dr. Busse, depends a great deal on the diligence with which members of college faculties would approach the training of recent graduates. *We would be glad to have an expression of views from our readers with regard to Dr. Busse's proposal.*

Proposed Merger of A.D.M.A. and A.P.M.A.

THE proposal to merge the American Drug Manufacturers' Association and the American Pharmaceutical Manufacturers' Association into one enlarged association of manufacturers is a logical development because the need for two such organizations which have in considerable measure duplicated one another's activities is no longer apparent.

These two organizations have worked rather closely together in matters of their mutual interest. They have had liaison committees which have shared the work to be done by members of the drug industry in behalf of regulation of the commerce in drugs, the standardization of drugs, and the development of manufacturing, dispensing, and quality control techniques.

All but a few of the largest producers of drugs and medicines for prescription dispensing have been members of both organizations.

The profession of pharmacy has a keen interest in the general attitude of the drug industry toward the whole program of medical care and public health, and it is fortunate that in both the American Drug Manufacturers' Association and the American Pharmaceutical Manufacturers' Association there are leaders who have been associated with some of the most important advances in drug therapeutics.

Considering the high caliber of intelligence and vision which the heads of some of the most influential members of the two associations have brought to the growth and development of their own firms, it should not be very difficult for the executive bodies of these two organizations to work out a satisfactory solution to the technical details which may be involved in a merger of the associations.

Dr. Schaefer Gives Up Deanship

COMMENCEMENT exercises of the Brooklyn College of Pharmacy of Long Island University, held June 8, marked the retirement of Dr. Hugo H. Schaefer as Dean of this college of pharmacy.

The University conferred upon him the honorary degree of Doctor of Laws and he now becomes Dean Emeritus. Although this marks the retirement of Dr. Schaefer from active teaching and educational administration, it does not mark his retirement in other capacities. As is well known, he has been engaged in many pharmaceutical activities and was re-elected Treasurer of the AMERICAN PHARMACEUTICAL ASSOCIATION for a three-year term at the recent convention in Detroit.

Dr. Schaefer has for many years been the chemist for the New York State Board of Pharmacy and an adviser to the Board of Regents, through the Department of Education of the State of New York, on pharmaceutical matters in general. He also has an extensive consulting practice in the drug industry and is Vice-Chairman of the National Formulary Committee, Secretary of the U. S. P. Revision Committee, Vice-President of the American Institute for the History of Pharmacy, a member of the American Council on Pharmaceutical Education, and a member of many committees and organizations in and out of the field of pharmacy in general.

It is a pleasure for us to record the congratulations and best wishes of his many colleagues in the pharmaceutical profession, and particularly in the AMERICAN PHARMACEUTICAL ASSOCIATION, upon the many honors which have come to him and to bear testimony to the very able manner in which he has developed the educational program of the Brooklyn College of Pharmacy. The contributions he has made to pharmaceutical education in the state of New York as well as in the nation during the long period of his service as a pharmaceutical educator both at the College of Pharmacy of Columbia University and at Long Island University have marked him as one of the great contemporary leaders of the profession.

Advice on Poliomyelitis

ALL of the information available from the Department of Health, Education and Welfare, with which the U.S. Public Health Service is affiliated, indicates that the supply of poliomyelitis vaccine will soon reach proportions that will be able to take care of vaccination of the most susceptible age groups. The question has arisen as to whether or not it is safe to use the Salk vaccine during epidemic periods,

(Continued on page 457)

News *and* Notes

ASSOCIATIONS

American Drug Manufacturers Association—*Dr. Ernest H. Volwiler,* President and General Manager of *Abbott Laboratories,* was elected President of the A.D.M.A. at the Association's annual meeting at White Sulphur Springs, W. VA. Vice-presidents elected by the A.D.M.A. were *Kenneth F. Valentine* of Pitman-Moore Company; *L. D. Barney* of Hoffmann-LaRoche Inc.; *Francis Boyer* of Smith, Kline & French Laboratories; and *James J. Kerrigan* of Merck & Co., Inc. *M. C. Eaton* of the Norwich Pharmacal Company was elected Treasurer.

American Public Health Association will hold its 84th annual meeting in Atlantic City, N.J., November 12–16. Nearly 400 papers will be presented with a week-long scientific and technical exhibit provided by governmental agencies and private firms.

Connecticut Pharmacy Commission announces through its Director, *Dr. Felix Blanc,* that *Murray Abraman* has been named an Inspector for the Commission.

Delta Kappa Sigma Fraternity Alumni Association of the University of Illinois College of Pharmacy presented its Annual Merit Award to Dr. Robert P. Fischelis, Secretary and General Manager of the AMERICAN PHARMACEUTICAL ASSOCIATION, at its annual award dinner in Chicago on June 3. In his acceptance address, "The Price of Professional Prestige," Dr. Fischelis stated: "Pharmacy is, in the eyes of the public, exactly what pharmacists themselves portray it to be by their personalities, their character and their services," and that prestige for the profession can be purchased only "in terms of self-sacrificing service, in behalf of better health for humanity, on the part of those legally designated as practitioners of pharmacy."

Joint Commission on Mental Illness and Health—From the Commission's Cambridge, Mass., headquarters *Dr. Jack R. Ewalt,* Study Director, announced that the *Smith, Kline and French Foundation* has made a $25,000 grant for general support of the Commission's work. The S.K.F. Foundation carries on a $125,000-a-year research and training grant program in the mental health field. The purposes of the Joint Commission's 3 year study begun early this year are to appraise present mental health knowledge and methods, point out gaps, limitations and deficiencies, and find new approaches.

Health News Institute—Development of a coordinated public relations program to be administered by H.N.I. on behalf of the entire health field was the topic of a preliminary discussion held in New York City May 28. The all-day meeting was called by *George F. Smith,* President of Johnson & Johnson and Chairman of the drug industry's public relations committee. Its purpose was to consider and discuss a number of possible channels into which H.N.I. might direct its activities. Among those attending the meeting at the Waldorf-Astoria were: *Dr. Robert L. Swain,* Editor of *Drug Topics* and *Drug Trade News; Dr. H. A. Prentice,* Executive Vice President of the Proprietary Association; *Daniel Schecter* of the American Hospital Association; *Dr. Robert P. Fischelis* of the AMERICAN PHARMACEUTICAL ASSOCIATION; *Peter J. Sletterdahl* of the National Association of Retail Druggists; *George Bugbee,* President of the Health Information Foundation; *Ray Schlotterer,* Executive Secretary of the Federal Wholesale Druggists' Association; and the public relations directors of the leading pharmaceutical manufacturers.

COLLEGES

Brooklyn College of Pharmacy's Dean, *Dr. Hugo H. Schaefer,* will retire on September 1, 1956, after having served 19 years in that capacity (see "Straight from Headquarters," page 433). *Edward Neimeth,* President of the College's Board of Trustees, has announced that *Dr. Arthur G. Zupko,* now serving as Associate Dean, will assume the post of Dean.

Florida Agricultural and Mechanical College, School of Pharmacy, Tallahassee, has now received accreditation by the American Council on Pharmaceutical Education. Accredited colleges of pharmacy in the United States and its territories now number 75.

(Continued on page 436)

University of Maryland School of Pharmacy students visited the American Pharmaceutical Association headquarters building on May 17. Accompanying them were H. Nelson Warfield (left, front), representative of Reed Drug & Chemical Co., Baltimore, and Professor Paul A. Pumpian, the group's faculty advisor. Dr. S. W. Goldstein, Director of the A.Ph.A. Laboratory, is at the extreme right.

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News and Notes. . . . . *from page 434*

Wayne University College of Pharmacy is now offering opportunities for graduate study. Graduate assistantships are also available at $1,450 for 10 months. Assistants are assigned on a half-time basis to activities related to undergraduate instruction. Tuition and non-resident fee will be waived during the period of the assistantship. The college offers the Master's degree in the following fields: Pharmacy, Pharmaceutical Chemistry, Pharmacology, and Pharmacognosy. Applications for graduate assistantships are now being accepted for the term beginning September, 1956. Additional information will be sent upon request by addressing the Dean of the college. . . . The College of Pharmacy is sponsoring a series of telecasts over station WTVS, entitled, "Pharmacy Fax." *Mrs. Jane Rogan*, Special Instructor in the college, is coordinator of this series which is presented every Sunday evening. Prominent personalities in the field of pharmacy are invited to participate in the television programs; each week a different phase of the profession of pharmacy is presented to the general public.

GOVERNMENT

Department of Agriculture—Wisconsin has been designated as "Modified Certified Brucellosis-Free" (effective June 6) by the U.S. Department of Agriculture. It is the fifth state to achieve this status, the others being Maine, New Hampshire, North Carolina, and Washington. Certification of Wisconsin is considered especially notable because of the size of its dairy industry and concentration of its cattle population.

Department of Commerce—"A Simplified Practice Recommendation for Glass Bottles for Drugs and Pharmaceuticals" as proposed by the A.D.M.A. has been submitted for review and acceptance to producers, distributors, users, and others interested by the Department's Commodity Standards Division, Office of Technical Services.

HEW—Dr. Samuel M. Brownell, U.S. Commissioner of Education for the past two and a half years, will be leaving his position in the Department to serve as Superintendent of Schools in Detroit.

University of Texas pharmacy students queue up to sign the Visitor's Book on their spring visit to the American Institute of Pharmacy A.Ph.A. headquarters.

Dr. Hugo H. Schaefer receives honorary Doctor of Laws Degree from Admiral Richard L. Conolly (left), President of Long Island University. Dr. Arthur G. Zupko (portrait to right of Dr. Schaefer) becomes Brooklyn College of Pharmacy's new Dean on Dr. Schaefer's retirement this fall (see page 433).

HOSPITAL PHARMACY

Institutes for Hospital Pharmacists—American Hospital Association announces an Institute to be held at the University of Chicago, August 20–24. A recent Institute sponsored by the A.H.A. in cooperation with the AMERICAN PHARMACEUTICAL ASSOCIATION and the American Society of Hospital Pharmacists, met at the University of Texas June 18–22.

Philadelphia Hospital Pharmacists Association and the Philadelphia College of Pharmacy and Science are repeating the specially planned "Parenteral Products Course" which met with such success in June. The two-week course, offered to hospital pharmacists throughout the nation, will commence August 6.

INTERNATIONAL

Great Britain has postponed prohibition of heroin manufacture due to pressure from the British Medical Association. The Medical Research Council will carry out clinical trials to determine whether substitutes for heroin are as effective as believed.

Israel Pharmaceutical Association held its fifth convention in April. Professional problems considered included the growth of the Pharmacy School in Jerusalem, preparation of the first National Israel Pharmacopeia, refresher courses for older members of the profession, and revision of the pharmacy law.

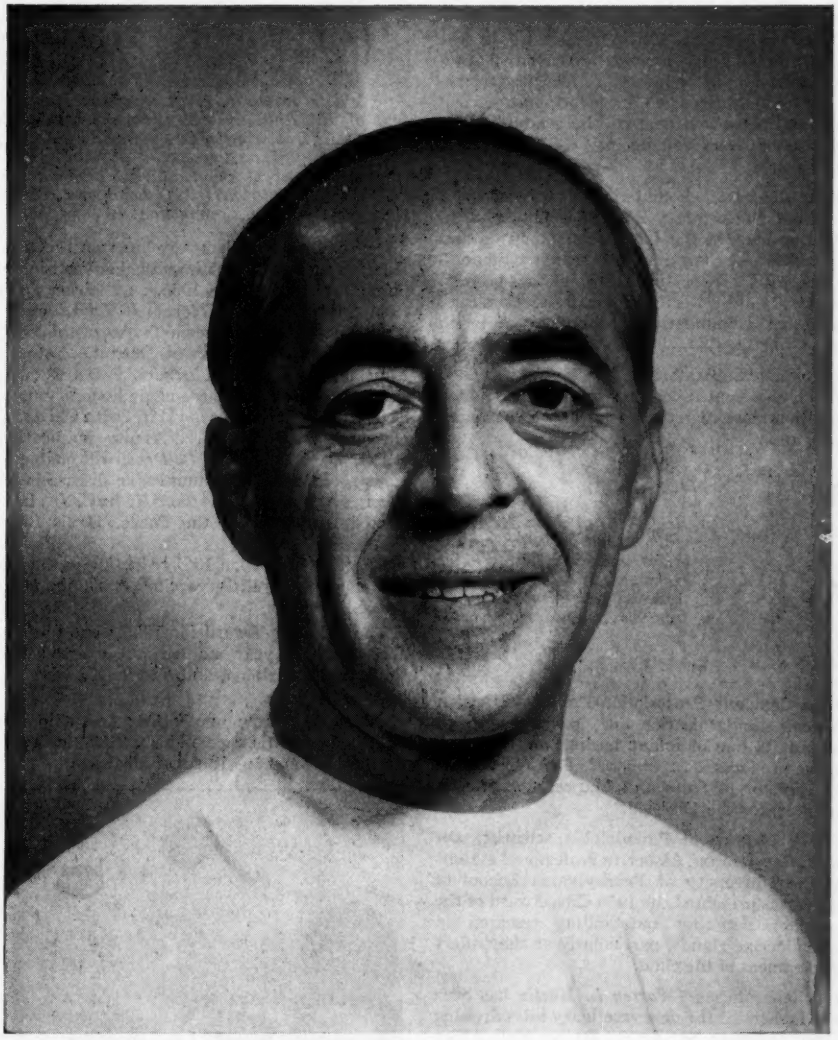
Italy—*Dr. Luther H. Evans*, Director-General of UNESCO, in his opening address to the 14th Congress of the International Publishers Association held at the Pitti Palace, Florence, June 4–11, said that each year 25,000,000 more people learn to read and many of them acquire a taste for books. The present total of literate persons is about 1,300,000,000 or half the world's population.

Japan—*Dr. Takeo Ishiguro*, Professor in the Pharmaceutical Department Medical Faculty, University of Kyoto, visited the American Institute of Pharmacy on June 6.

Philippines—The Philippine Pharmaceutical Association held its national convention in Baguio in April. . . . *Winthrop-Stearns* is building a $2,000,000 plant in Manila for the production of ethical drugs for the treatment of malaria, dysentery, and schistosomiasis.

(Continued on page 438)

Advertisement



Harry Feldman (1223 River St., Hyde Park, Mass.) says: "Benzedrex* Inhalers have definite consumer appeal and are pre-sold. My permanent display carton, alongside the cash register, has proved this fact and has increased my sales considerably."

To get the attractive 'Benzedrex' Inhaler display carton, always be sure to order in dozens. *Smith, Kline & French Laboratories.*

*T.M. Reg. U.S. Pat. Off.

News and Notes. . . . . *from page 436*

MANUFACTURERS

Abbott Laboratories charged at a hearing on May 24 that Food Town Pharmacies, Baton Rouge, La., sold certain of its non-prescription items below the established resale price. An injunction was issued to restrain Food Town Pharmacies from violating the Louisiana fair trade laws. . . . A center for research on feed additives and drugs for poultry, farm animals, and household pets will be established by Abbott Laboratories on its new 207-acre Lake County farm.

Armour Research Foundation has received a license from the Atomic Energy Commission to operate the first reactor for use as a neutron and gamma-ray source for industrial research. Some 25 industrial firms are participating in the project. The reactor, built by North American Aviation, Inc., is located at the Foundation's technology center in Chicago.

Arnar-Stone Laboratories, which completed a new plant last September, has started work on a new addition more than doubling the present manufacturing area.

Brig. General John R. Wood will become Vice President and Director of Research for Burroughs Wellcome (U.S.A.) upon his retirement August 1 from the Army Medical Corps.

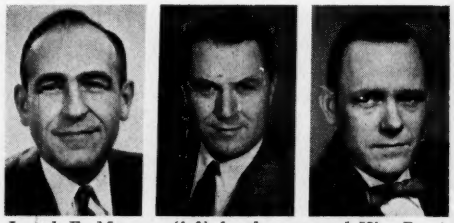
Borden Company Prescription Products Division announces standardization of package design throughout its line of infant feeding and milk replacement products. . . . *James R. Bodine* has been named Director of Sales and Marketing, a newly created post, for the Division.

Ciba—A 34-year-old Philadelphia scientist, *Dr. Alfred M. Bongiovanni,* Associate Professor of Pediatrics at the University of Pennsylvania School of Medicine, was presented the 1956 Ciba Award of the Endocrine Society for outstanding research in human endocrine glands, particularly as they affect the development of the child.

Eaton Laboratories—*Warren L. Martin* has been named Manager of the new veterinary sales division of Eaton Laboratories, *L. E. Daily, M.D.,* Vice President, has announced.

Fritzsche Brothers' Vice President, *Dr. Ernest Guenther,* addressed regional meetings of the American Chemical Society and, two days later, of the Institute of Food Technologists on "Essential Oil Production in Europe and North America."

Johnson & Johnson's "Play It Safe," a bicycle safety film, was awarded first prize in the 1956 Golden Reel Film Festival in the safety field. The award, comparable to the "Oscar" for theatrical films, is made by the Film Council of America, which reviews industrial films made in the United States.



Joseph E. Marmon (left) has been named Vice President of Eli Lilly and Company's new subsidiary, Corn States Laboratories, in a move designed to expand veterinary products research. Edward Buesking (center) replaces Marmon as Lilly Division Director and W. R. Netherton (right) takes over Buesking's managership of Lilly production.

Parke, Davis & Company has won the *Saturday Review's* award "for distinguished advertising in the public interest" during 1955. . . . Parke, Davis, & Company's President *Harry J. Loynd* early last month was named "Foreign Trader of the Year" by the Foreign Trade Club of Detroit. Later on in May he and *George A. Bender,* P-D's Retail Sales Promotion Manager, were made honorary members of the Alpha Eta Chapter of Phi Delta Chi at Wayne University, Detroit. . . . A new publication for Parke, Davis, *Pediatric Patterns,* will enable physicians to determine communicable disease incidence in any given area. . . . *Arthur H. Buhl, Jr.,* has been elected a member of the Parke, Davis Board of Directors.

Effective May 15, a 10% reduction in the price of its new poliomyelitis vaccine was announced by Parke, Davis.

The **Schering Award** for 1955 went to *David C. Schechter,* 4th year student at Jefferson Medical College, Philadelphia, and *Charles K. Mervine, 3rd,* his classmate.

Sharp & Dohme made their first shipments of Salk poliomyelitis vaccine May 21 following release by the National Institutes of Health.

Charles T. Lipscomb (left), President of J. B. Williams Co., discusses a chart used in his talk "Current Trends in the Distribution and Sales of Health and Beauty Products" presented at the Toiletry Merchandisers Association Convention. Dr. Paul Olsen (center) of Drug Topics, and Jim Peckham (right) of A. C. Neilsen Company helped prepare the survey.

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LOCAL & STUDENT BRANCHES

LOCAL BRANCHES

The **Indianapolis Branch** held its May meeting in conjunction with the Seminar on Modern Pharmacy Banquet of the Butler University College of Pharmacy on May 8. *Dr. R. L. Swain*, pharmacist, lawyer, and Editor of *Drug Topics*, was guest speaker. He used as his subject, "The Outlook for Professional Pharmacy."

Northern California Branch was briefed at its March meeting on the findings of a survey of junior and senior students at the University of California regarding factors which influenced their choice of pharmacy as a career and their plans for the future. *Richard Stanhope*, President of the University of California Student Branch, assisted by fellow students *Dean Kershaw* and *Elmer Coombs*, gave the report. At the April meeting *James L. Porter* of Miller Drug Company, Burlingame, Calif., showed films taken during his world travels. In May the Branch arranged the annual banquet honoring the senior class of the University of California College of Pharmacy and those receiving the new Doctor of Pharmacy degree.

Pharmacy Society of Rochester, New York, newly organized Branch of the A.PH.A., included a panel discussion on "Should Pharmacists Charge a Professional Fee When Filling Prescriptions?" on the program of its March meeting. April meeting guest speakers, *Jonas Bassen*, District Inspector for the Food and Drug Administration, and *Bernard J. Oseroff*, local dermatologist, spoke on "Responsibility of the Pharmacist Under the Food, Drug and Cosmetic Act" and "Dermatology—1956." Five-minute refreshers on "Tranquilizers" and "Penicillin," presented by Branch members *Aldo Ercolana* and *Irving Bloom*, highlighted the May Meeting.

Members of the **St. Louis Branch** met jointly with the Retail Druggists' Association of Greater St. Louis on May 15 to hear *Joseph J. Shine*, Editor of the *Central Pharmaceutical Journal*, speak on "Prescription Pricing."

STUDENT BRANCHES

Ferris Institute Student Branch held its last meeting of the year on May 23. The program featured a film on "Intravenous Anesthetics."

Howard College Student Branch has elected the following officers for 1956–57: *Clyde King*, President; *J. T. Lindsey*, Vice President; *Bettye Whittington*, Secretary; and *James Peck*, Treasurer. *Dr. John Wintter* is faculty advisor.

Massachusetts College of Pharmacy Student Branch had as guest speaker at its May meeting *George Surabian*, member of the Massachusetts State Board of Pharmacy. Mr. Surabian gave a brief history of the pharmacy registration laws in Massachusetts. The following newly-elected officers were installed: *George Denmark*, President; *Richard Metcalf*, Vice President; *Marjorie Mogan*, Secretary; and *John Conlon*, Treasurer. *Dr. John W. Schermerhorn* serves as faculty advisor.

Newly elected officers of the **Ohio Northern University Student Branch** are: *Kenneth Thomas*, President; *Jerry B. MacCartney*, Vice President; *Emily A. Brown*, Secretary, and *Charles R. Kent*, Treasurer. *M. N. Ford*, Secretary of the Ohio State Board of Pharmacy, was the honored guest at the second annual banquet held by the Branch on May 8. Guest speaker for the event was *Dr. Hugo H. Schaefer*, Dean of the Brooklyn College of Pharmacy.

Ohio State University Student Branch officers for 1956–57 are: *Roger W. Cain*, President; *Robert Bennett*, Vice President; *William Lestini*, Secretary; and *Leland L. Wince*, Treasurer. *Dr. Frank W. Bope* is faculty advisor.

Robert Toborowsky has been elected President of the **Rutgers University Student Branch** for 1956–57. Other officers are: *Fred Schlect*, Vice President; *Marilyn Lockwood*, Secretary, and *Walter Stankiewicz*, Treasurer. The faculty advisor is *Dr. John L. Voigt.*

Southern College of Pharmacy Student Branch has elected the following officers to serve during 1956–57: *William G. Kilpatrick*, President; *James W. Fowler*, Vice President; *Jane Craig*, Secretary; and *Charles E. Autry*, Treasurer. *Dr. S. M. Wang* is faculty advisor.

State College of Washington Student Branch officers for 1956–57 are: *Donald R. Putnam*, President; *Richard E. Subra*, Vice President; and *Carolyn J. Wilson*, Secretary. *Dr. Charles F. Martin* is Treasurer and faculty advisor of the Branch.

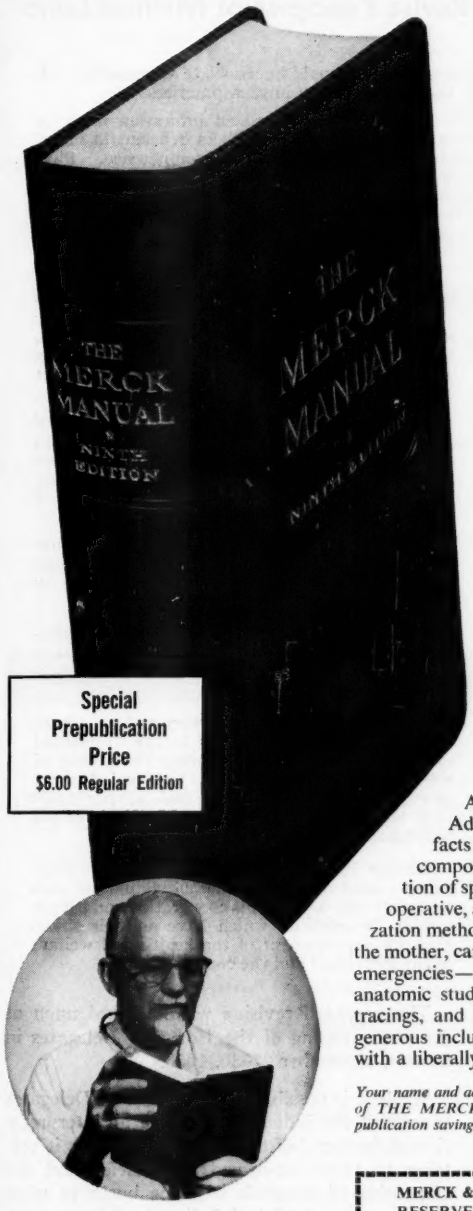
State University of Iowa Student Branch officers in 1956–57 will be: *James Pohle*, President; *Robert L. Crawford*, Vice President; *Max W. Clark*, Secretary; and *Richard D. Welch*, Treasurer. The faculty advisor is *Dr. James W. Jones.*

Temple University Student Branch announces the following newly-elected officers for 1956–57; *Anthony Drabnis*, President; *James R. Coker*, Vice President; *Sally Ann Miller*, Recording Secretary; *Perl S. Plottel*, Corresponding Secretary; and *Jon R. May*, Treasurer. *Dr. A. John Vazakas* is faculty advisor.

University of Arkansas Student Branch reports the following officers for 1956–57: *Vail Paschal, Jr.*, President; *Allen Bradley*, Vice President; *Cagle Harrendorf*, Secretary; and *Bill C. Buchanan*, Treasurer. *Dr. Marcus Jordin* is faculty advisor.

University of Georgia Student Branch announces the following officers for 1956–57: *Morris Dinwiddie*, President; *Ed Riddle*, Vice President; *Bobbie Burns*, Corresponding Secretary; *Caroline Howard*, Recording Secretary; and *Robert O. Elrod*, Treasurer. *Dr. Seldon D. Feurt* serves as faculty advisor.

University of Maryland Student Branch elected the following officers for 1956–57: *Edward W. Neighoff*, President; *Robert W. Mahoney*, Vice President; *Alan Sherman*, Secretary; and *Dr. Frank J. Slama*, Treasurer. The new faculty advisor is *John J. Sciarra.*



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American Medical Association to Revise Principles of Medical Ethics

Important actions taken at the 105th Convention of the American Medical Association in Chicago, June 11–15, 1956, included adoption of a resolution urging cessation of governmental purchase of poliomyelitis vaccine, except as needed for essential public health purposes and for distribution to the indigent, and consideration of a revision of the Principles of Medical Ethics of the Association.

Dr. Dwight H. Murray of Napa, Calif., was inaugurated as President of the Association, and Dr. George F. Lull was re-elected Secretary and General Manager.

MacCartney and Robertson Represent A.PH.A.

A.PH.A. President John A. MacCartney attended the first session of the House of Delegates at which officers of related national organizations were introduced. First Vice-President Ronald V. Robertson, who is also Chairman of the A.PH.A. Committee on Professional Relations, attended all sessions of the House of Delegates and was invited to attend the session of the Reference Committee which reviewed and discussed the proposed revision of the principles of ethics in detail.

PROPOSED REVISION OF PRINCIPLES OF ETHICS

The present Principles of Medical Ethics of the Association comprise 48 sections. It was felt that these detailed sections should be replaced by a condensed version which will provide the physician with a permanent, yet readily accessible guide to ethical conduct. This condensed version reads as follows:

Preamble

These Principles are intended to serve physicians, individually or collectively, as a guide to ethical conduct. They are not laws; rather, they are standards by which a physician may determine the propriety of his own conduct. They are intended to aid physicians, in their relationships with patients, with colleagues, with members of allied professions and with the public, to maintain under God, as they have through the ages, the highest standards.

Section 1.—The prime objective of the medical profession is to render service to humanity with full respect for both the dignity of man and the rights of patients. Physicians must merit the confidence of those entrusted to their care, rendering to each a full measure of service and devotion.

Section 2.—Physicians should strive to improve medical knowledge and skill, and should make available the benefits of their professional attainments.

Section 3.—A physician should not base his practice on an exclusive dogma or a sectarian system, nor should he associate voluntarily with those who indulge in such practices.

Section 4.—The medical profession must be safeguarded against members deficient in moral character and professional competence. Physicians should observe all laws, uphold the dignity and honor of the profession and accept its self-imposed disciplines. They should expose, without hesitation, illegal or unethical conduct of fellow members of the profession.

Section 5.—Except in emergencies, a physician may choose whom he will serve. Having undertaken the care of a patient, the physician may not neglect him. Unless he has been discharged, he may discontinue his services only after having given adequate notice. He should not solicit patients.

Section 6.—A physician should not dispose of his services under terms or conditions which will interfere with or impair the free and complete exercise of his independent medical judgment and skill or cause deterioration of the quality of medical care.

Section 7.—In the practice of medicine a physician should limit the source of his professional income to medical services actually rendered by him to his patient.

Section 8.—A physician should seek consultation in doubtful or difficult cases, upon request or when it appears that the quality of medical service may be enhanced thereby.

Section 9.—Confidences entrusted to physicians or deficiencies observed in the disposition or character of patients, during the course of medical attendance, should not be revealed except as required by law or unless it becomes necessary in order to protect the health and welfare of the individual or the community.

Section 10.—The responsibilities of the physician extend not only to the individual but also to society and demand his cooperation and participation in activities which have as their objective the improvement of the health and welfare of the individual and the community.

The proposed revision will be acted upon at the next meeting of the House of Delegates in Seattle, November 27–30, 1956.

While it is possible for the House of Delegates to request the Judicial Council for an interpretation of Section 7 of the proposed Code, as it pertains to physician-owned pharmacies and the dispensing of drugs, it must be borne in mind that the revised "Principles" will not become effective unless and until they are adopted by the House of Delegates at the next meeting.

The Principles of ethics of the American Medical Association may be amended by the House of Delegates at any session on the approval of two-thirds of the members of the House of Delegates present and voting, provided that the proposed amendment shall have been introduced at the preceding session.

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ZIRADRYL Lotion and **ZIRADRYL** Cream are useful in the prevention and treatment of poison ivy or poison oak dermatitis. **ZIRADRYL** brings rapid relief by controlling the allergic process with Benadryl and by inactivating the plant toxin with zirconium.

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FDA Criminal . . . . . and Related Actions

Over-the-Counter Sales

(During the Month of April 1956)

West Memphis, Ark.—Selling amphetamine without physicians' prescriptions. Fined $1,000 and placed on probation for 3 years.

Folkston, Ga. (truck stop)—Selling amphetamine without physicians' prescriptions. Firm and operator fined a total of $1,000; two employees fined $50 each; each defendant placed on probation for 2 years.

Griffin, Ga. (truck stop)—Selling amphetamine without physicians' prescriptions. Sentencing deferred.

Chicago, Ill.—Selling amphetamine and penicillin without physicians' prescriptions. Fined $500 each and court costs of $40.80.

St. James, Minn.—Selling and refilling prescriptions for amphetamine and barbiturates without physicians' authorizations. Fined $50, given a 6-month suspended jail sentence, and placed on probation for 3 years.

Kansas City, Mo. (cocktail lounge)—Selling amphetamine without physicians' prescriptions. Charges against firm dismissed; each individual sentenced to serve 3 months in jail.

Newark, N.J.—Selling amphetamine and barbiturates without physicians' prescriptions. Sentenced to serve 2 years in jail, given a 3-year suspended jail sentence, and placed on probation for 5 years.

Newton, N.J.—Selling and refilling prescriptions for amphetamine and penicillin without physicians' authorizations. Fined $200.

Charlotte, N.C.—Selling amphetamine without physicians' prescriptions. Fined $500, given a 1-year suspended jail sentence, and placed on probation for 2 years.

Charlotte, N.C.—Selling amphetamine and barbiturates without physicians' prescriptions. Fined $500 each.

Charlotte, N.C. (truck stop)—Selling amphetamine without physicians' prescriptions. Fined $300, given a 1-year suspended jail sentence, and placed on probation for 2 years.

Cana, Va.—Selling amphetamine without physicians' prescriptions. Sentenced to serve 1 year in jail.

Misbranded Drugs

Robin Pharmacal Corp., Brooklyn, N.Y.—Shipping sulfadiazine tablets deficient in declared amount of sulfadiazine. Fined $1,000 each; individual given a 1-year suspended jail sentence and placed on probation for 3 years.

Injunctions

Heel-Ins, Inc, and Beatrice Henry, St. Albans, Vt.—Permanently enjoined in November 1955 from interstate shipments of Heel-Ins devices misbranded by false and misleading label statements that the devices are adequate and effective for the cure, mitigation, treatment, or prevention of arthritis.

Raco, Inc., Seattle, Wash.—Permanently enjoined from interstate shipment or making any claim for Cosmos Radioactive Pads of Monazite Sand, which fail to bear adequate directions, or which make false claims for the treatment of arthritis, bursitis, rheumatism, neuritis, sinus trouble, soreness of the hands, wrists, forearms, or back, or any other conditions.

Doxylamine Succinate Now Nonlegend

Doxylamine (Decapryn, Merrell), succinate became exempt from prescription dispensing requirements as of June 30. [*Federal Register*, **21**, 3672 (May 30, 1956).]

Nonlegend Preparations

Certain diamthazole dihydrochloride (Asterol, Hoffmann-LaRoche) and dextromethorphan hydrobromide (Romilar, Hoffmann-LaRoche) preparations have been exempted from prescription dispensing requirements. [*Federal Register*, **21**, 4341 (June, 1956).]

Six Drugs Proclaimed Opiates

President Dwight D. Eisenhower has proclaimed the following drugs to have an addiction-forming or addiction-sustaining liability similar to morphine or cocaine:

(1) 4,4-diphenyl-6-piperidino-3-heptanone piperidyl methadone, Pipadone (Burroughs Wellcome)

(2) Isopropyl 1-methyl-4-phenylpiperidine-4-carboxylate

(3) 3-Diethylamino-1,1-di(2-thienyl)-1-butene, diethylthiambutene, Themalon (Burroughs Wellcome)

(4) 1,3-dimethyl-4-phenyl-4-propionoxyhexamethyleneimine, proheptazone

(5) Ethyl 2,2-diphenyl-4-morpholinobutyrate

(6) Ethyl 1-[2-(*p*-aminophenyl)-ethyl]-4-phenylpiperidine-4-carboxylate, anileridine, Leritine (Merck, S. & D.).

False Claims for Air Cleaner

The Federal Trade Commission has ordered Trion, Inc., McKees Rocks, Pa., to desist from directly or indirectly advertising that its Trion Electric Air Cleaner device will afford protection from colds and other respiratory infections through the use of such statements as "Over 90 per cent of air-borne bacteria and virus is removed."

FDA Accepts Mold Inhibitors

The Food and Drug Administration has announced amendment of the Federal cheese standards to allow the use of three mold inhibitors (calcium and sodium propionates and sorbic acid) to prevent molding of sliced and cut varieties of packaged cheese. FDA scientists characterize these materials as "harmless food additives." The propionates have been used for a number of years to inhibit molding of sliced bread.

Labeling Requirements Exemptions

A drug or device shall be exempt from section 502 (f) (1) of the Food, Drug and Cosmetic act if shipped or sold to, or in the possession of, persons regularly and lawfully engaged in instruction in pharmacy, chemistry, or medicine not involving clinical use, or engaged in law enforcement, or in research not involving clinical use, or in chemical analysis, or physical testing, and is to be used only for such instruction, law enforcement, research, analysis, or testing. [*Fed. Reg.*, **21**, 2326(April 11, 1956).]

Announcing...

Cytomel*

a new agent for treatment of metabolic insufficiency

'Cytomel' is a new agent for treatment of the many clinical problems caused by *metabolic insufficiency*—such as physical sluggishness, slowed-down mental capacity and decreased emotional control, and decreased function in various organs and organ systems.

'Cytomel' exerts its effect directly at the cellular level; it works swiftly—a positive effect will often be seen within several days in patients suffering from metabolic insufficiency.

	Package Size	Price to Retailer
'Cytomel' Tablets, 5 mcg.	Bottles of 100	$1.53 each
'Cytomel' Tablets, 25 mcg.	Bottles of 100	2.28 each

Be prepared for a prompt demand — order from your wholesaler now!

Smith, Kline & French Laboratories, Philadelphia

*Trademark for L-triiodothyronine, S.K.F.

A Brief History

National Pharmacy Wee

"Public health should be the keynote"

by Robert Abramson*

FOR pharmacists to understand thoroughly the purpose of National Pharmacy Week, they must realize the dilemma that the profession of pharmacy once faced. This perplexing situation was vividly presented in an address to the Section on Practical Pharmacy and Dispensing at the Convention of the AMERICAN PHARMACEUTICAL ASSOCIATION, held in Buffalo, N.Y., August 1924. The address was given by Robert J. Ruth, Chairman of the Section.

The Dilemma of 1924

Dr. Ruth, in his address, cited situations within the profession which might or might not have been known by the pharmacists in attendance at the Convention.

> "We have," said Dr. Ruth, "the bootlegging drugstore, the drugless drug store . . . the cut-rate situation, office-girls compounding and dispensing medicine in physicians' offices, untrained persons compounding and dispensing medicines in many hospitals where every consideration is paid to sanitation . . . but little or no attention to the preparation, standardization, potency or compounding of the medicine which, in the main, is the treatment depended upon to restore the patient to good health."[1]

Continuing to illuminate the cloudy reputation of American pharmacy, Dr. Ruth said:

> "Too small a percentage of the medicines taken internally and used externally are prepared or sold by the legitimate manufacturing pharmaceutical houses, or by retail pharmacists. An astonishingly large per cent is manufactured by concerns having no professional standards and sold from patent medicine stores . . . or vended from house to house by people in each instance having no knowledge of medicine."[1]

The sale of pseudomedicinal products by door-to-door salesmen, or by patent medicine stores, was a menace to public health. More seriously, the imitation of *bona fide* products was unfair to the professional pharmacist who was bound not only to municipal and national regulations but also to a code of professional ethics. The profession of pharmacy was being prostituted by unscrupulous impersonators.

National Pharmacy Week a Solution

What solution could pharmacists employ to remedy the prevalent conditions outlined by Robert Ruth? In his address Dr. Ruth stated that *it is essential to unite all pharmaceutical interests in a great movement for public information and constructive and protective legislation.*[1] The most important remark with which we are concerned is Dr. Ruth's second proposal to elevate pharmacy:

> "A 'National Pharmaceutical Week' could be inaugurated with specifically written articles prepared by men of national prominence in pharmaceutical circles, appearing in newspapers and magazines throughout the nation; and speakers from our ranks addressing the Rotary . . . and Lions . . . and other similar organizations throughout the United States, which are so very instrumental in shaping our national thought. Public health should be the keynote."[1]

This address by Dr. Ruth was the medium through which the idea of National Pharmacy Week was conceived. Such an observance would be of unlimited benefit to professional pharmacy. Its purpose would be twofold. It would serve as an instrument to remind pharmacists everywhere of their responsibility to a Code of Ethics that binds them to guard the public's health and welfare. Furthermore, observance of a National Pharmacy Week would make the public aware of the standing of the pharmacist in the community.

Early Observances of Pharmacy Week

The first Pharmacy Week was held October 11–17, 1925. Great care was taken to eliminate commercialization of the observance; the professional side of pharmacy was emphasized.

* Student of pharmaceutical history, Creighton University College of Pharmacy, Omaha, Nebr.

The author wishes to thank Dr. Robert P. Fischelis, Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION, and his assistant, Charles C. Rabe; also to express appreciation for help given by George Griffenhagen, Acting Curator, Division of Medicine and Public Health, Smithsonian Institution; Miss Cora Mae Briggs, Secretary of the Nebraska Pharmaceutical Association; and Miss Joan Krasne, who typed this paper.

[1] Ruth, Robert J., *J. Am.Pharm. Assoc.*, 13, 1082(1924).

PLAN NOW TO PARTICIPATE

RADIO
TELEVISION
NEWSPAPERS
CIVIC CLUBS
DISPLAYS

Pharmacists are invited to participate through the installation of window displays and exhibits and also to take part in the observance through the active use of various public relations aids that will be made available by the A.Ph.A. Committee on Public Relations. These participation aids, including addresses, radio and TV scripts and spot announcements, newspaper editorials and ad mats, etc., will be listed in the August issue of THIS JOURNAL along with the official rules of the display contest. Early in September, every pharmacy in the nation will be mailed a copy of the contest rules and a participation order form. Plan NOW to participate during National Pharmacy Week, October 7–13.

RESERVE YOUR PUBLIC RELATIONS KIT TODAY. Send $1.00 to Committee on Public Relations, American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington 7, D.C.

There were no funds appropriated for the Advisory Committee to use in carrying on the Pharmacy Week campaign in 1925 and all expenses were paid by those individuals who so generously contributed their time to the cause of pharmacy.[2] Practically every organization in pharmacy on the state, local, and national echelons contributed wholeheartedly to the unqualified success of America's first Pharmacy Week. The success of the observance exceeded the fondest expectations of the directors of the campaign.

Pharmacy Week was endorsed in 1926 by the pharmaceutical societies in Canada, Australia, New Zealand, and Tasmania. The Canadian Pharmaceutical Association carried on an annual Pharmacy Week observance which resulted in a coverage of the North American continent.[2]

The second observance of National Pharmacy Week, October 10–16, 1926, took on new proportions. A plan formulated for the permanent organization was adopted by the A.PH.A. and National Association of Retail Druggists. This was to the effect that a National Executive Committee be formed to consist of ten members, five to be appointed each year by the President of the A.PH.A. and five by the President of the N.A.R.D.; these members to elect the National Chairman; the Advisory Committee, working under the Executive Committee, to be composed of the Presidents and Secretaries of all of the State Pharmaceutical Associations.[2] With the use of the combined facilities of the A.PH.A. and N.A.R.D., the National Executive Committee was able to carry on an intensive campaign to publicize National Pharmacy Week. The A.PH.A. and N.A.R.D. appropriated $250 each to constitute a budget of $500 to be used by the National Executive Committee in carrying on the National Pharmacy Week campaign. Only half of the appropriation was used in 1926. The balance served to finance the 1927 observance completely. A new appropriation of $500 was granted jointly by the A.PH.A. and N.A.R.D. in 1928. Again less than one-half of this fund was used by the Executive Committee in 1928, and the balance was sufficient to finance the Pharmacy Week campaign in 1929. Thus the first five Pharmacy Week campaigns were financed with $1,000, or an average of $200 a year, with millions of dollars worth of publicity secured.[2]

The fifth annual observance of Pharmacy Week, October 13–19, 1929, surpassed any of the previous celebrations. The pharmacists of America launched a publicity campaign so astonishing and so vast in scope that it has been referred to as the "multi-million dollar Pharmacy Week program." Eleven of the most popular radio programs on N.B.C. ("red and blue coast-to-coast networks") carried Pharmacy Week messages. Some 5,000 cards announcing Pharmacy Week were displayed in the subways of New York; and *American Druggist*, *Drug Topics*, and *Druggists Circular* printed special Pharmacy Week issues (a policy which these journals followed for some years). Every available publicity medium was used to announce Pharmacy Week to the public. The Hearst newspapers published, without charge, the full-page editorial "Who Is This Man?" in 28 metropolitan newspapers having national coverage. The editorial itself was proclaimed by many to be the most striking editorial pertaining to the pharmacist ever written.[3] In addition, hundreds of talks were delivered before service clubs and other groups during the week. Local druggists' associations planned and executed successful Pharmacy Week campaigns.

[3] Ruth, Robert J., "The History of National Pharmacy Week," *J. Am. Pharm. Assoc.*, 20, 700(1931).

Ruth Display Awards Begun in 1931

To advertise National Pharmacy Week more effectively to the public, pharmacists were advised to enter local and national window display contests. These display contests were started in 1931. In memory of Robert J. Ruth, the father of Pharmacy Week, a memorial trophy bearing his name was awarded to the winner of the window contest in 1931. In 1932 the trophy for the best display was awarded to the John O'Brien Drug Company of Omaha, Nebr. The window contest was another of the methods devised by the National Executive Committee to awaken the public to the importance of their local pharmacist. (See Table I.)

TABLE I—TOP RETAIL PHARMACY AWARDS

1931	Haussman's Pharmacy, Philadelphia, Pa.
1932	John O'Brien Drug Co., Omaha, Nebr.
1933	Sisson's Pharmacy, Chicago, Ill.
1934	Apothecaries' Hall, New Haven, Conn.
1935	Nathan Fried, Chicago, Ill.
1936	Morgan and Millard, Baltimore, Md.
1937	Gorman-Nobel Drug Co., Hackensack, N.J.
1938	Schrader's Pharmacy, Baltimore, Md.
1939	Moosbrugger Drug Co., Dayton, Ohio
1940	Llewellyn L. Eisentraut, Des Moines, Ia.
1941	Frank Nau, Portland, Ore.
1942	Speicher-Grady Drug Co., Johnstown, Pa.
1943	Higger's Drugs, Washington, D.C.
1944	Weber and Judd Co., Rochester, Minn.
1945	Weber and Judd Co., Rochester, Minn.
1946	No award
1947	Hay's Drug Stores, Portland, Me.
1948	M. L. Cooper, Baltimore, Md.
1949	Nichols and Stuck Pharmacy, Charles Town, W. Va.
1950	Wood's Drugstore, Hopkinsville, Ky.
1951	Paul's Pharmacy, Cincinnati, Ohio
1952	Read Drug and Chemical Co., Baltimore, Md.
1953	Minnich's Pharmacy, York, Pa.
1954	Milton A. Friedman, Baltimore, Md.
1955	Stanley Bishop, Palo Alto, Calif.

College Participation

In 1935 the date of the eleventh annual Pharmacy Week was changed to allow Colleges of Pharmacy greater opportunity to participate in Pharmacy Week activities. In the November 1935 edition of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, the National Executive Committee said this about the participation of the nation's Colleges of Pharmacy:

> "It is hoped that our Colleges of Pharmacy will co-operate to the fullest possible extent during the eleventh annual observance of Pharmacy Week. Here is an excellent medium for a College of Pharmacy to tell its story to the residents of the community. When supported by educational institutions, the movement takes on a deeper significance than a movement in which they are not duly represented."

In 1936 Anton Hogstad, Jr., Chairman of the National Pharmacy Week Executive Committee, sent a list of recommendations for the reorganization of the National Pharmacy Week movement to the members of the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION. These recommendations were submitted because:

> "The question as to whether the National Pharmacy Week Movement should be continued in the future has been raised quite frequently by educators, retail pharmacists, association officers and others. This . . . received serious consideration by the . . . Executive Committee and the Committee feels that the Movement should be continued in the future. During the first two or three years, thousands upon thousands of retail pharmacists took an active part in the observances of the National Pharmacy Week Movement. Many of these individuals, however, conducted highly commercialized drug stores and they did not have a love of the profession at heart. They were only interested in securing . . . prizes. After making two or three unsuccessful attempts, they lost interest and ceased to participate in the movement. There has been, therefore, during the past eleven years, a distinct settling process taking place, wherein one notes that those individuals who possess a love of the profession at heart and who are not particularly interested in prizes have taken a very active interest. The National Pharmacy Week Executive Committee is satisfied with these conditions, for the future of the Movement depends upon the support of the professionally inclined pharmacists. It has been deemed advisable in the light of these facts to make certain changes in the set-up of the National Pharmacy Week Movement."[3]

Reorganization of the Movement

Up to the time that Chairman Hogstad had made his observations on the commercialism of National Pharmacy Week it was generally agreed by most pharmacists that this observance was worth many dollars to the local druggist. The special week, devoted exclusively to the promotion of the profession to a higher level in the esteem of the public, did a great deal to establish a more amicable relationship between the pharmacist and his customers. Not only did this concentrated campaign make the public aware of the pharmacist's role in the community, it instilled in the pharmacist a responsibility for the health and safety of his customers. The most significant contribution made by the special week's observance was that it made the public conscious of the fact that they should depend on registered pharmacists employed in legally authorized shops; that they should no longer be duped into buying patent medicines or other medicines claiming to cure every disease known to the human race.

The main objection Mr. Hogstad seems to have voiced was the expanded commercial effort of pharmacists to win recognition. Chairman Hogstad, therefore, made recommendations in his report to the members of the Council of the A.PH.A. Some of the important suggestions were:

[3] Hogstad, Anton, Jr., "Suggested Plan for the Reorganization of the National Pharmacy Week Movement," *J. Am. Pharm. Assoc.*, **25**, 557(1936).

1. That the AMERICAN PHARMACEUTICAL ASSOCIATION, through its National Pharmacy Week Committee, encourage pharmaceutical associations throughout the world to observe an annual Pharmacy Week.[3]
2. That members of the drug-trade fraternity, through the agency of bulletins, pharmaceutical press . . . be urged to keep the Pharmacy Week movement strictly professional at all times.
3. That the National Pharmacy Week Executive Committee prepare and distribute a Pharmacy Week booklet containing necessary information relative to the annual observance.[3]

The preceding suggestions were made by Mr. Hogstad to eliminate the commercialism of the Pharmacy Week celebration, and once again emphasize the professional importance of Pharmacy.

In 1940 John O'Brien of Omaha was the Chairman of the National Pharmacy Week Committee. He made this announcement concerning the importance of the observance:

> "If every pharmacist will do a part, this observance will be a great step forward in the Movement.
>
> "This appeal is directed particularly to the retail pharmacists. The public gains its impression of pharmacy almost entirely from the drug stores it patronizes. While others can assist, the . . . movement will succeed through the support of retail pharmacists or will fail because they do not support it."[4]

Mr. O'Brien realized the importance of the retailer in establishing the standards for the profession. It was from the retailer that the public gained its good or bad impression of pharmacy.

Recent Significant Observances

During World War II the Pharmacy Week observances were carried on as usual. During those trying times, the message of pharmacy was especially significant. Because fewer doctors were available to the public, the importance of the neighborhood pharmacy was readily realized.

No National Pharmacy Week celebration was held October, 1946, in order to build a Pharmacy Week theme in April, 1947, around public education in cancer control. The A.PH.A. co-operated with the American Cancer Society by making the theme of the display contest, "Your Pharmacist Works for Better Community Health." In a letter to the President of the A.PH.A., President Truman made this comment about the endeavor of pharmacists to aid in the control of diseases:

> "It is particularly gratifying to note that pharmacists are endeavoring to use their close contact with the community to help control major diseases through public education in cooperation with private and governmental health agencies."[5]

Again in 1949, the Public Relations Committee completed arrangements with the American Cancer Society to make public education on cancer control a theme of the observance.[6]

The 1950 National Pharmacy Week campaign was identified with public health promotion. The observance afforded pharmacists everywhere the opportunity of informing the public of their role in the community as a public health agency.

In 1953 the slogan of National Pharmacy Week was again, "Your Pharmacist Works for Better Community Health." Dr. Robert P. Fischelis emphasized the role of the profession in the field of public health.

> "The cumulative effect of these activities over the past quarter of a century has helped immeasurably to establish the AMERICAN PHARMACEUTICAL ASSOCIATION as an organization which is keenly and actively interested in health promotion and one which can be counted on . . . to

(Continued on page 473)

An informal snapshot of Dr. and Mrs. Robert J. Ruth at the Clifton Hotel, Niagara Falls, Canada, during Buffalo A.Ph.A. Convention, August 1924.*

[4] O'Brien, John, THIS JOURNAL, 1, 336(1940).
[5] Truman, Harry S, THIS JOURNAL, 9, 153(1948).
[6] THIS JOURNAL, 10, 91(1949).
* From the personal files of Dr. E. Fullerton Cook, retired director of the U. S. P.

POISON information*

by Arthur J. McBay†

More than 7,000 people in the United States die needlessly each year as a result of poisonings.[1] Many more poisoning fatalities are not discovered or poisoning is not listed as the primary cause of death on the death certificate. For every death due to poisoning there are also many cases of nonfatal poisoning. The pharmacist is in an excellent position to help in the prevention and treatment of these poisonings.

Causes of Fatal Poisoning

Statistics for accidental poisoning by solids and liquids are given in Table I. These statistics are for mortality among the industrial policyholders of the Metropolitan Life Insurance Company and represent only a small fraction of the number of people who die annually in the United States by accidental poisoning. It is felt that the figures are fairly *representative* not only for each category but also for the age groups within the category. It should be noted that *suicidal deaths are not included* in this table, however.

TABLE I—ACCIDENTAL DEATHS FROM SOLID AND LIQUID POISONS[a]

Industrial Department, Metropolitan Life Insurance Company 1950–1952[2]

	Age in years	
	0 to 5	*5 & over*
Barbiturates	4	80
Methanol	0	43
Ethanol	2	12
Opiates	0	11
Pesticides	4	7
Alkalies	0	6
Paraldehyde	0	5
Carbon Tetrachloride	5	5
Acids	0	4
Chloral Hydrate	0	3
Belladonna	1	3
Methyl Salicylate	10	2
Aspirin	7	2
Mercurials	0	2
Strychnine	1	1
Antihistamines	1	1
Lead	12	1
Kerosene	5	1
Other Drugs	8	9
Other Chemicals	6	13
Total	66	211

[a] This Table is believed to represent the *relative* number of deaths resulting from the above poisons nationally.

Until recent years poisonous substances were fairly well known and the public was warned against indiscriminate use. Today many new hazards have appeared due to the advent of numerous synthetic chemicals and the widespread use of nationally and locally advertised products. The manufacturers hesitate to divulge the composition of these products and even when the constituents are known, the toxicology and potential antidotes are seldom known or available. It should be noted that while pharmaceuticals cause about one-third of the poison fatalities, their active ingredients are generally adequately described and antidotal information is available. Many of the sundries sold by the pharmacist are not so well described. A few such preparations which are relatively nontoxic are lipstick, toilet water, perfume, and hair spray. The toilet water could be toxic orally if it contained certain solvents.

How the Pharmacist Can Help

During the year 1950 about 35% of all deaths by solid and liquid poisons were reported to be due to barbiturates,[1] about 22% to other drugs, and about 43% were due to other chemicals.[1] Of the accidental poisoning deaths of children under the age of five, about 33% resulted from the ingestion of drugs. Most of these deaths were due to overdosages of aspirin or methyl salicylate.[3] About 25% of the deaths in this age group could be attributed to petroleum products, especially kerosene.[3] The remaining 42% of the deaths were attributed to substances not intended for human consumption. Children are still being poisoned by paints containing lead. Although arsenic and strychnine are well recognized as hazards they are still available to the young in some of our pesticides. Pesticides may also contain some of the newer but less well known hazards such as sodium fluoroacetate and the organic phosphates. The number of lye poisonings has become fewer due to its diminished household use. The use of the detergents has increased and poisoning due to these substances has been reported. Dr. Bain has said:

* Presented to the Section on Education and Legislation, A.Ph.A. Detroit Convention, April 1956.

† Assistant in Legal Medicine, Harvard Medical School; Supervisor of the Chemical Laboratory, Massachusetts Department of Public Safety.

[1] National Office of Vital Statistics, "Death Rates for Each Cause by Race and Sex: United States 1950" (1953).

[2] Metropolitan Life Insurance Company, "Statistical Bulletin," 35, 7 (1954).

[3] Bain, K., "Death Due to Accidental Poisoning in Young Children," *J. Pediat.*, 44, 622(1954).

"Roughly two-thirds of the deaths from accidental poisoning could be wiped out if aspirin, the barbiturates, kerosene, lye, lead, and arsenic were unavailable to small children."[3]

The role of the pharmacist in preventing needless deaths is clear. Both morally and legally, barbiturates should be dispensed only on proper prescriptions and even legal refills should be discouraged. Whenever possible the pharmacist should advise the physician to prescribe either phenobarbital or a barbiturate with a built-in antidote, or to prescribe only small amounts of the rapid-acting barbiturates. He should emphasize the dangers of the barbiturates. Some of the newer prescription and nonprescription substitutes for barbiturates are not proving much safer than the barbiturates. Even though many of the chemicals available in a community are not obtained from a pharmacy, the pharmacist should be familiar with the toxicology and potential antidotes for any chemical that is available in his local area.

The pharmacist can also help to prevent needless deaths by advising parents to buy only small containers of children's aspirin or to buy containers of children's aspirin which the child will be unable to open. Parents should be warned to keep all medications out of the reach of children. Whenever possible the pharmacist should warn the members of his community of the other hazards to children.

The pharmacist should point out to his customers that kerosene and fuel oil should be stored in such a way that children cannot get them. The dangers of many other industrial and household products should also be brought to the attention of parents.

Most pharmacists can readily supply information about the toxic effects and antidotes for drugs, but can they always be helpful when questioned about kerosene, Ant Buttons, moth balls, furniture polish, ink, isopropyl alcohol, or airplane cement? Since these products are not intended for human consumption, the manufacturer is neither expected nor required to list the active or potentially toxic ingredients, or their antidotes. He does not assume any legal responsibility when his products are improperly used; for example, when they are ingested by a child. Labeling is insufficient in most instances since the children who would be apt to ingest the products are unable to read. When a physician is called to treat a patient who has ingested a household product he has practically no guidance as to what to expect in the way of prognosis or as to what type of antidote, if any, should be employed or even whether the patient should require any treatment. Here the pharmacist may render service to physicians and parents.

Precautions

Adequate labeling should be instituted for household products and for other products which are not intended for internal use but which are harmful when ingested. If there are dangerous materials in the retail package, then the toxic ingredients as well as their antidotes in addition to adequate warning should be printed on the label. If the manufacturer indicates that his product is perfectly safe, even though it may be accidentally ingested he should bear full moral, civil, and criminal responsibility for any harm done by his product. The excuse that a formula is a secret should not relieve the manufacturer of the responsibilities of adequate labeling. Under present conditions it is frequently impossible to tell either physicians or parents whether "Brand X Furniture Polish" is toxic or nontoxic; what symptoms should be expected; what the prognosis might be, or what treatment should be instituted. Usually there is not sufficient time for chemical analysis of the product or biological fluids. Many times even the use of a lavage might be questionable. The Boston Poison Information Center has had moderate success in telephoning the manufacturer for information, but even this is not always possible after normal working hours.

Pleasant appearing and fine tasting medications are more apt to be consumed accidentally than some of the older, less elegant formulations. Probably a label "Keep Out of Reach of Children" would warn parents of the potential danger of these preparations.

In addition to providing adequate labeling, the manufacturers should *desist from advertising that products are "safe."* Safety at best is only a relative term and *there is nothing which, if ingested in sufficient amounts, would not constitute a poison.* This is particularly true in the case of the nonbarbiturate sedatives. Sufficient studies of lethal doses, untoward reactions, poisonings, antidotes and methods of detection should be undertaken before these products are released for distribution. All of the available information should be published to guide those who must detect and treat cases of poisoning resulting from the consumption of these products. The editor of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION could possibly include this information with the rest of the information concerning new products. If it is felt that this information would detract from the sale of the product, the information could be published separately; but it certainly is essential that it be available in print.

Physician samples have been a source of worry to many doctors. When these samples are mailed to their homes they are available to small children or to anyone else who may have access to their mail. It might be advisable for the manufacturers to contact the physicians before their samples are mailed to determine if samples are wanted and, if so, where they would prefer to have them delivered.

Sources of Poison Information

The training of *the pharmacist* prepares him better than most others to supply information concerning potentially toxic materials and their anti-

dotes. It is only necessary to note the subjects studied by the pharmacist to emphasize this fact. Courses such as pharmacy, chemistry, pharmacognosy, pharmacology, bacteriology and business administration each contribute to his invaluable and unique knowledge. These subjects not only contribute to his realization of the potential hazards of pharmaceuticals, chemicals, household products, plant substances and bacteriological products but also equip him with a knowledge of the measures that may be used to combat the poisons included in these classes of substances. Business administration provides a background which enables him to suggest adequate labeling and required legislation to aid in preventing accidental poisoning. Only a well-trained toxicologist is in a better position to serve in this capacity, and there are far too few people in this specialized field.

Pharmacy college *libraries* usually have information concerning pharmaceuticals and many other products. Much of the information in the libraries could be made more available by establishing filing systems for special information. Librarians should familiarize themselves with this information and with the best way of locating it quickly when needed.

The *teachers* in colleges of pharmacy are in an excellent position to instruct their students concerning hazardous materials, antidotes, sources of information, and other measures to help in the prevention of poisonings. This information can be given in the regular courses without the necessity of special instruction. Members of the faculties of colleges of pharmacy should also be willing to serve as consultants to pharmacists, physicians, and to others seeking information concerning poisoning.

Poison information centers should be available to physicians in all parts of the country. Those established thus far are affiliated with hospitals. Although the contact personnel are physicians, pharmacists should be available to the center to supply information concerning substances that are familiar to them. At the present time there are many people accumulating information on the potential poisons and the treatment of those individuals who have been exposed to them. It would be most helpful if one central agency could undertake this task on a national basis and distribute information. It is felt that it would be a worthwhile endeavor for the Federal government to set up a central clearing house for all this information. An excellent paper describing a poisoning control program has been written by Press.[4]

The Pharmacist in Emergencies

As a community service, the pharmacist could prepare emergency kits containing all the necessary antidotes which would be available to physicians at any time. Newspaper announcements of this service to the physicians would also serve as favorable institutional advertisements.

In summary, the profession of pharmacy may help in the prevention and treatment of poisonings by:

Having information and antidotes available.
Aiding in the identification of the toxic material.
Educating others to potentially hazardous substances.
Introducing and supporting legislation to control hazardous substances.
Specifically warning parents of the possible dangers of aspirin, methyl salicylate, barbiturates and kerosene.
Not recommending any drug as "safe."
Reminding the manufacturer of his responsibility to see that his product is adequately labeled.
Cooperating with those who are establishing or operating poison information centers.
Making emergency kits available to physicians at any time.

USEFUL SOURCES OF POISONING INFORMATION

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Incompatibility of Phenols with Pluronics*

by Arnold D. Marcus,† Eugene Wetstein‡ & Murray Ruderman‡

SUMMARY

There is a definite interaction between phenols and a new series of surface-active polyethers, the Pluronics.

This interaction depends upon the concentration of the interactants and results in the formation of an insoluble, cloudy white precipitate which eventually settles out as an oil. Physical evidence of incompatibility may be lacking in those situations where there is a sufficient excess of the Pluronic to solubilize the otherwise insoluble complex.

The interactions described above may be responsible for a variety of formulation problems. These include: emulsion breakage, suspension flocculation or delayed release of active constituents. The ability of the Pluronics to solubilize the complexes formed is particularly disadvantageous in this respect in that the obvious physical evidence may be completely hidden. As a result, a formulation may be completed and/or tested for activity before the difficulty is apparent.

The qualitative character of this study makes it difficult, if not impossible, to generalize about the behavior of phenol–Pluronic systems. Reactions and manifestations which are true for one system may be completely lacking in another. Such seemingly important variables as concentration of the reactants, type of phenol and type of Pluronic may or may not be critical. It is, therefore, planned to undertake a more comprehensive and quantitative study of this problem in the future. *The Authors*

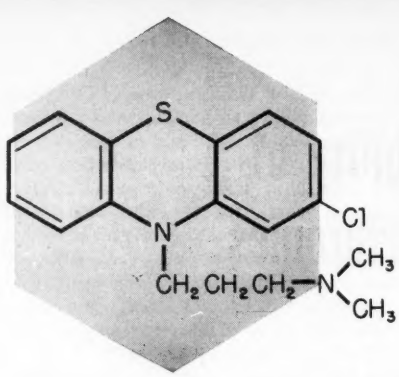
THE recent availability of a new series of surface active and solubilizing agents, the Pluronics,[1] has already led to their use in pharmaceutical formulation. Since the Pluronics, like the Tweens,[2] polyethylene glycols, Myrjs[2] and methylcellulose, are polyethers, it was assumed that they too would enter into complex formation with a number of pharmaceutically important phenols.

The ability of a variety of pharmaceuticals and compounding aids to form stable complexes is quite often of substantial value in formulation procedures. The complexed drug may offer a number of advantages over the uncomplexed form. It may be more soluble, possess greater chemical stability, lack obnoxious taste or odor, or it may be more quickly absorbed. Unfortunately, complexation may also result in the formation of a product which is less resistant to chemical deterioration, largely insoluble, and poorly absorbed or released. Such undesirable effects as emulsion breakage and flocculation of suspensions may also result from complex formation. This was dramatically observed when the U.S.P. XIV Calamine Lotion was phenolated.

In view of the liabilities which may be associated with complex formation and as the result of a few preliminary experiments which clearly showed that phenols do form complexes with Pluronics, this study was undertaken. It was our general purpose to gain a qualitative picture of the nature and extent of the interactions involved. Despite the qualitative character of the over-all investigation, the general picture is fairly clear and the data serve to illuminate areas which might otherwise tend to be obscure. Although the data as given in Tables I to V are apparently quite accurate and precise, the experimental procedures employed probably introduced errors amounting to $\pm 5\%$.

(*Continued on page 472*)

* A Contribution from the Department of Pharmacy, Rutgers University, College of Pharmacy, Newark 4, N.J.
† Assistant Professor of Pharmacy.
‡ Senior Student.
[1] Wyandotte Chemicals Corp., Wyandotte, Mich.
[2] Atlas Powder Company, Wilmington, Del.



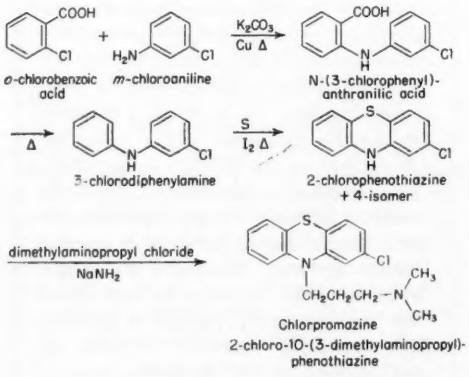
The Pharmacy of CHLORPROMAZINE*

by Gloria R. Sabatini, John J. Gulesich and Robert F. Doerge

DURING the course of the investigation of compounds which might have a potentiating action when used with general anesthetics, the compound 2-chloro-10-(3-dimethylaminopropyl)-phenothiazine, later known as chlorpromazine, was found to have exceptional activity.[1] It was designated as R.P. 4560 by the Rhône-Poulenc Laboratories in France, and during the early work with the compound in the United States it was known as SKF #2601. The U.S. numbering system indicates the chlorine atom in the 2-position and the numbering system used in the French reports indicates the chlorine in the 3-position. It is necessary to know which system is used, as the position of the chlorine atom is important.[1] Since the early screening work, chlorpromazine has been found to have many interesting properties in addition to its potentiating activity.

Synthesis

One method of synthesis for chlorpromazine may be represented as follows:



Chemical Properties

Chlorpromazine (Thorazine S. K. F.) is used as the free base and as the hydrochloride salt. Other salts have been investigated but appear to offer no advantage over the hydrochloride.

Chlorpromazine, like phenothiazine and most of its derivatives, is light-sensitive. The chemical, either the free base or the hydrochloride, turns pale yellow-green and then to progressively deeper shades of brown. Although the exact mechanism of breakdown is not completely understood, there is evidence to indicate that it is an oxidative process catalyzed by light.

Chlorpromazine hydrochloride in solution exhibits maximum chemical stability when buffered at a *p*H of 4 to 5 and protected by the presence of antioxidants. It is sensitive to all oxidizing agents including ferric salts, persulfuric acid, permanganates, dichromates, nitric acid, and hydrogen peroxide. Characteristic colors are formed and may be used as a spot test for identification purposes.

Chlorpromazine hydrochloride is precipitated by most of the common alkaloidal reagents.

Physical Properties

Chlorpromazine Base [$C_{17}H_{19}N_2SCl$]—A gray-white nonflowing crystalline powder, having a bitter taste and local anesthetic action. It has an amine odor. M.p. 59–60°C. M.W. 318.85.

Chlorpromazine Hydrochloride [$C_{17}H_{20}N_2SCl_2$]—A white, free-flowing crystalline powder, which has a bitter taste followed by a local anesthetic action. It is almost odorless, having at most a very weak amine odor. M.p. 194–197°C. M.W. 355.320. Eq.W. 355.320. Contains 89.7% chlorpromazine base.

The free base begins to precipitate as the *p*H of a solution approaches 6. A 2.5% simple aqueous solution has a *p*H of about 4.5 and is stable for about 2 weeks if carefully protected from light and heat and if the container is nitrogen flushed. When sterilized by autoclaving, the aqueous solutions which have not been stabilized immediately develop a pink color, even though the containers are nitrogen flushed.

The assay method most commonly used is a

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* Presented to the Practical Pharmacy Section, A.PH.A. Detroit convention, April, 1956.
From the Research & Development Division of Smith, Kline & French Laboratories. Chlorpromazine is sold under the trade name of Thorazine.
The authors are indebted to their fellow workers in the Research and Development Division whose work has contributed much of the basic information reported in this paper.

[1] Koetschet, P., *Int. Rec. Med. Gen. Pract. Clin.*, **168**, 295–300(1955).

TABLE I—SOLUBILITY OF CHLORPROMAZINE BASE

Solvent	Gm./ml.
Ethyl alcohol	1 in 3
Methyl alcohol	1 in 2
Acetone	1 in 2
Ethyl acetate	1 in 2
Chloroform	1 in 1
Carbon tetrachloride	1 in 1
Distilled water	Insoluble (0.9 mg. % at 25°)

TABLE II—SOLUBILITY OF CHLORPROMAZINE HYDROCHLORIDE

Solvent	Gm./ml.
Distilled water	1 in 1
Chloroform	1 in 2
Methyl alcohol	1 in 2
Ethyl alcohol	1 in 3
n-Propyl alcohol	1 in 10
i-Propyl alcohol	1 in 50
n-Butyl alcohol	1 in 20
Monochlorobenzene	<1 in 100
Ether	Insoluble
Benzene	Insoluble
Carbon tetrachloride	Insoluble
Ethyl acetate	Insoluble

spectrophotometric procedure which is based on the absorption at 257.5 millimicrons.

Both chlorpromazine base and the hydrochloride crystallize in the anhydrous form. See Tables I and II for solubility data.

Pharmacology

The most interesting aspect of the pharmacology of chlorpromazine is its effect on the central nervous system. It causes a reduction in motor activity, and brings about quietness and relaxation without true hypnosis or anesthesia.[2] Chlorpromazine blocks conditioned responses, but does not interfere with responses to unconditioned stimuli, such as electric shock. In animals it antagonizes the emetic effects of apomorphine, irradiation, and motion sickness.

The peripheral effects are probably the result of its moderate adrenolytic activity rather than of ganglionic blockade. Chlorpromazine lowers body temperatures in experimental animals, the extent of the change depending on the dose and the room temperature.

Chlorpromazine appears to potentiate the action of all barbiturates. In animals it shortens the time of onset of ether anesthesia and considerably prolongs the duration of action. It also prolongs the hypnotic action of alcohol administered orally to rats.

In mice, chlorpromazine markedly increases the analgesic effects of morphine or meperidine.[3]

Although closely related chemically to such potent antihistaminic agents as promethazine, it has a rather weak antihistaminic action.

Toxicity

The LD_{50} in rats is 75 to 100 mg. per Kg. intraperitoneally, 490 mg. per Kg. orally, and 25 mg. per Kg. intravenously. In chronic toxicity studies on dogs, there were no significant variations in the blood picture. In pregnant rats there were no adverse effects on first or second generation test animals.[4]

Indications

Chlorpromazine is a potent drug and, like any potent drug, should be administered discriminately and with the care observed with all serious medication.[5] It has been employed successfully for the following:

Control of nausea, vomiting,[6] and hiccups, with dramatic results in severe and refractory cases.

Control of mental and emotional disturbances marked by tension, apprehension, excitement, anxiety, or agitation.

Management of acute or chronic alcoholism, controlling both agitation and delirium.

Relief of intractable pain by potentiating analgesics, narcotics, or sedatives.

Use in obstetrics, as an adjuvant, to control apprehension, pain, and nausea and vomiting.

Contraindications

Chlorpromazine is contraindicated in comatose states caused by central nervous system depressants (alcohol, barbiturates, opiates, etc.) and also in patients under the influence of large doses of barbiturates or narcotics. Chlorpromazine should be used with extreme caution in patients with cardiac insufficiency or with tachycardia or when tachycardia-producing drugs are to be used.

Side Effects

The side reactions produced by chlorpromazine may be considered in two essential groups:

1. Those appearing in the initial stages of therapy, transitory in nature, and of mild to moderate severity in most instances. Included in this group are drowsiness, dizziness, dry mouth, constipation, orthostatic hypotension (shock-like reactions have occurred in a small percentage of cases after parenteral administration), and palpitation.
2. Those appearing in a small percentage of cases, chiefly after the first week and by the sixth week of therapy, and usually requiring cessation of treatment or at least reduction in dosage. Among these are: diffuse skin rashes which are not troublesome as a rule and often transitory; jaundice of a predominantly mild type mimicking that seen in extrahepatic obstruction; occasional depression of white blood cells resulting in leucopenia or neutropenia; and extrapyramidal symptoms of a Parkinson-like nature.

[2] Cook, L., *et al.*, *J. Pharmacol. & Exper. Therap.*, **113**, 11a (1955).
[3] Courvoisier, S., *et al.*, *Arch. intern. pharmacodynamie*, **92**, 305 (1953).
[4] Smith, Kline & French Laboratories, unpublished information.
[5] Council on Chemistry & Pharmacy, *J. Am. Med. Assoc.*, **160**, 287 (Jan. 28, 1956).
[6] Friend, D. G., and Cummins, J. F., *New Engl. J. Med.* **250**, 997(1954).

TABLE III—DOSAGE GUIDE FOR CHILDREN

Body Weight	Suggested Dosage Range per dose	Syrup 10 mg./5 cc. teaspoonful	Tablets 10 mg., 25 mg. 50 and 100 mg.	Ampuls 25 mg./1 cc. 50 mg./2 cc.
10–20 lb.	2.5–5 mg.	1/4–1/2 tsp. q.4-h6h.	....	0.1–0.2 cc. q.6-8h.[a]
20–50 lb.	5–15 mg.	1/2, 1 1/2 tsp. q.4-6h.	10 mg. q.4-6h.	0.2–0.5 cc. q.6-8h.[a]
50–75 lb.	15–20 mg.	1 1/2 tsp. q.4-6h.	10–20 mg. q.4-6h.	0.5–0.8 cc. q.6-8h.[b]
75–100 lb.	20–25 mg.	2, 2 1/2 tsp. q.4-6h.	20–25 mg. q.4-6h.	0.8–1 cc. q.6-8h.[b]
Over 100 lb.	Use adult dosage, *i.e.*, start with 25 mg. and increase gradually until symptoms are controlled			Starting dose 1 cc. q.6-8h.

[a] Dosage not to exceed 40 mg. per day.
[b] Dosage not to exceed 75 mg. per day.

Dosage

Adults—*Intramuscular:* 25 to 50 mg. b.i.d., t.i.d., or q.4-6h., p.r.n. (not to exceed 200 mg. per day); *oral:* 10 to 50 mg. t.i.d., q.i.d., or q.4-6h., p.r.n.

Children—As a general guide, chlorpromazine should usually be administered to children, 0.25 mg. per pound of body weight, q.4-6h. See Table III.

In all cases, it is essential to bear in mind that the dosage of chlorpromazine must be highly individualized according to the severity of the condition and the degree of response. In general, parenteral administration should be reserved for bedfast patients.

Dosage Forms

Chlorpromazine Hydrochloride Tablets—*Description:* Burnt orange colored, sugar coated tablets, monogrammed to show potency in milligrams. *Available:* Thorazine hydrochloride tablets in four dosage strengths: 10, 25, 50, and 100 mg., in bottles of 50 and 500. (A 200-mg. strength intended primarily for institutional use is also available.)

Chlorpromazine Hydrochloride Syrup—*Description:* A palatable, clear, colorless to pale yellow syrup with an orange-custard flavor and a slightly numbing aftertaste. The vehicle is a specially modified sucrose syrup. The *p*H is 4.3 to 5.3. Each teaspoonful (5 ml.) supplies 10 mg. of chlorpromazine hydrochloride. There are approximately 30 drops per ml. or 1 mg. of chlorpromazine hydrochloride in approximately 15 drops of syrup. *Available:* Thorazine hydrochloride syrup comes in specially coated, opaque 4 fl. oz. bottles to preserve its stability.

Chlorpromazine Suppositories—*Description:* Modified torpedo shaped suppositories. Pale cream in color. They are of the hot molded type, having a waxy, water-insoluble base which melts at body temperature. The two strengths are differentiated by size. *Available:* Thorazine suppositories (as the free base) are available in two dosage strengths: 25 and 100 mg. in polyethylene-lined aluminum foil strips of 6, in a tray and sleeve carton with a detachable label.

Ampuls—*Description:* A clear, buffered aqueous solution with antioxidants and made isotonic with sodium chloride. The *p*H is 4 to 5. The formula is as follows:

Ingredients	% w/v
Chlorpromazine HCl	2.5
Ascorbic acid	0.2
Sodium bisulfite	0.1
Exsiccated sodium sulfite	0.1
Sodium chloride	0.6
Water for injection, *q.s.*	100.0

Available: Thorazine hydrochloride ampuls are supplied in 1- and 2-ml. sizes with each size containing 25 mg. of chlorpromazine hydrochloride per ml. In boxes of 6 and 100.

Dispensing and Administration

Ampuls—Thorazine hydrochloride ampuls should be protected from light because exposure may cause discoloration. Slight yellowish discoloration will not significantly alter potency or therapeutic efficacy, nor is the toxicity increased. If markedly discolored, ampuls should be discarded because they will have lost a noticeable degree of potency.

The ampul solution is intended for slow, deep administration in the upper outer quadrant of the buttock. Irritation, when it exists, may be minimized by massaging the site of injection or by dilution of the solution with at least an equal volume of normal saline solution prior to injection. Also, it has been suggested that a few drops of procaine hydrochloride solution be added to the ampul solution before injection. Subcutaneous injection is not advisable and the undiluted solution should never be given intravenously.

In order to avoid the possibility of contact dermatitis, those giving frequent injections should avoid getting the material on their hands or clothing. It has been recommended that precautions similar to those observed in the handling of streptomycin should be adopted.

As a general rule, the ampul solution would be expected to be compatible with amine salts but incompatible with salts of organic acids, due to the *p*H being too high, or to insoluble salt formation. Any solution which will increase the *p*H

to 5.8 or higher will precipitate free chlorpromazine.

Syrup—Thorazine hydrochloride syrup is light-sensitive and is packaged in a special light-proof bottle. Originally it was directed that it should be dispensed only in the original bottle, but later it was established that the syrup could be dispensed in amber bottles if protected from sunlight. There is inadequate protection from light in other bottles.

The syrup, in most cases is compatible with salts of organic bases. However, if tannins are present in the vehicle there may be an incompatibility. If Thorazine hydrochloride syrup is added to highly alcoholic medicinals the alcohol-soluble agents may be precipitated, as by any syrup. Thorazine hydrochloride syrup is incompatible if mixed with appreciable amounts of preparations having a *p*H approaching 6 or above, as the water-insoluble base is liberated.

The following chart gives the approximate therapeutic equivalence of Thorazine dosage forms:

Ampuls (*i.m.*)		Tablets and Syrup		Suppositories
5 mg. (0.2 ml.)	=	10 mg.	=	25 mg.
25 mg. (1 ml.)	=	50 mg.	=	100 mg.
approx. ratio: 1		2		4

Since chlorpromazine has the rather unusual effect of potentiating other drugs, in particular greatly prolonging and intensifying the action of certain barbiturates, combinations must be used judiciously and only by the physician who is familiar with their use.

Straight from Headquarters

• • • • • • • • • • *from page 433*

(Advice on Poliomyelitis)

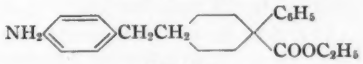
and this has been answered in the affirmative by the Public Health Service. The Public Health Service has recommended to State Health agencies that priority age groups be extended to include all children under 20 and pregnant women as soon as the supply of vaccine in the State warrants such action.

There is, of course, a wide variation in the procedure for distribution of the vaccine. There are states like Washington in which 90 per cent of the vaccine supplied finds its way into normal commercial channels and is handled routinely the same as any other biological product. In the state of Virginia, on the other hand, the vaccine is distributed almost exclusively through the Department of Health and made available directly to physicians, without any handling by the pharmacist. It is entirely up to the state advisory committees to determine how the vaccine which is allocated to each state, under Federal legislation providing funds for health departments to acquire the vaccine, should be distributed. It is to be assumed that pharmacists are represented on all state advisory committees.

Pharmacists are in a strategic position to influence public thinking on the matter of vaccination against polio.

There need be no hesitation on the part of members of the profession to recommend to the families in their communities that vaccination against polio is safe and should be undertaken promptly, and that no child should be denied the protection that is available through this vaccine.

New Analgetic



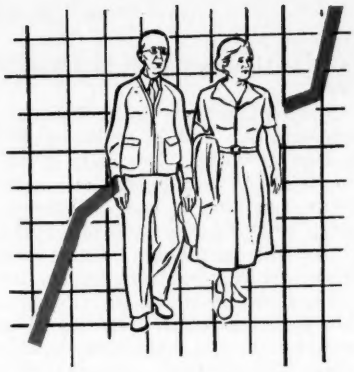
Leritine

The following scientists at Merck Sharpe & Dohme Research Laboratories Division have synthesized a new type of analgetic: A. P. Sullivan, Jr., F. K. Heath, P. D. Orahovats, Karl Pfister, John Weijlard, and George Purdue. The new product, called Leritine (anileridine), does not contain an N-methyl group, formerly thought to be characteristic of all analgetics. Side reactions are said to be mild and the drug has not caused vomiting, constipation, or nausea. In humans it is twice as potent as meperidine and can be administered orally or parenterally. Leritine will be available to physicians this fall.

Emetine Hydrochloride for Sale

The U.S. General Services Administration plans to dispose of 3,302 ounces of emetine HCl now held in the National Stock Pile. The drug will be offered for sale generally following the ODM determination that emetine HCl is obsolescent for use in time of war because of the development of new and better materials. GSA will request those it considers to be interested in purchasing the material to submit offers. The material will be available for disposition on and after October 24, 1956 [*Fed. Reg.*, **21**, 2606 (April 21, 1956)].

NEW APPROACH TO GERIATRIC THERAPY*



Less than a century ago, mankind's life expectancy was 41 years. For today's newborn, it is 68 years.

by Henry F. Page, M.D.

TO UNDERSTAND and evaluate properly the subject of geriatrics and the current trends in its management, one first must pause and survey the problem of aging as it has developed over the years. The term *geriatrics* was coined from the Greek "Geron"—an old man—by Mascher in 1909. However, the subject received scant attention until the late 1930's when it finally became popularized and received recognition as a quasispecialized branch of Medicine. That infant specialty has now grown into a nightmare veritably sitting on the shoulders of society.

The trend that it will assume henceforth is the paramount question facing Medicine and its allied fields today. This sudden urgency can be explained by the dramatic increase in man's life span. In ancient days one's life expectancy was 30 years. As centuries rolled by this gradually expanded to 35 years in the Middle Ages and, with further slow passage of time to the period of our Civil War, finally attained the total of 41 years. So from the dawn of civilization to a time within the memory of our own grandfathers, man's life expectancy increased but 11 years. In the subsequent brief interval of time over 27 years have been added, so as of now a newborn babe can expect to exist 68 years. And this acceleration of longevity continues apace. Its impact on life and customs throughout the world is just beginning to be felt. In France the percentage of the population over 65 years of age is 12% and shortly will reach 15%, a figure also soon to be attained by England and the countries of Western Europe. In our so-called young country, 8% fall into that category which shortly will rise to 10%. That means that there is a grand old army of 18,000,000 persons over 65 years of age encamped in our midst.

Before worrying about what pill to give these 18,000,000 souls to make them exist longer, one would wonder, in these days of efficient, minimal cubage family dwellings, where they might find sleeping quarters. As the lowly codfish brings sixty cents per pound at market, where are they (the eighteen million, that is) going to eat properly when living alone without funds. Where are they to obtain not only cash in their pockets but also self-respect and motivation for life, when the present economic system trends toward earlier and earlier retirement. Rather than rose tinted glasses or mood-elevating drugs, perhaps an opportunity for social intercourse with kindred souls might prove more pleasurable. As the spectre of impending death materializes in their thoughts and minds perchance a little spiritual guidance and support might prove more satisfying than phenobarbital. What good entails if they exist to a ripe old age but become decerebrate vegetables. Since with a little luck we will all eventually join their ranks, it behooves us now to straighten out some of these particulars.

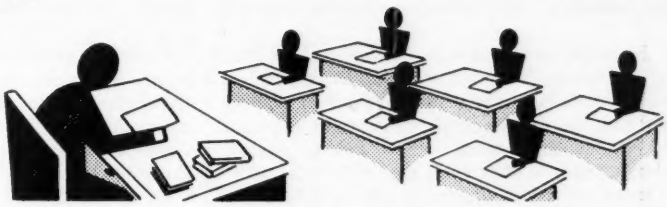
Sociological Considerations

Our sociological confreres are now actively organizing to meet the challenge, so much so that the medical profession appears no longer in a position of command. There are now, for example, over 70 non-profit homes for the aged in the greater Philadelphia area. There are 43 social groups or golden age clubs such as the Columbia Avenue Old Age Club governed and operated by five church groups including Protestant, Roman Catholic and Jews, and the Hilltop Club in Chestnut Hill sponsored by the Chestnut Hill Community Center. Under the direction of the Health and Welfare Council educational efforts are being instituted through various media for mass communication such as news-

(Continued on page 468)

* Presented at the First Annual Philadelphia Pharmacy Forum, Benjamin Franklin Hotel, March 14, 1956. Dr. Page is Associate in Medicine at Lankenau Hospital, Overbrook, Pa. His special field is geriatrics.

by Louis W. Busse, Ph.D.†



a philosophy of INTERNSHIP PROGRAMMING

INTERNSHIP training is a subject in which this institution has been vitally interested for many years. The State Board of Pharmacy, the School of Pharmacy, and the Wisconsin State Pharmaceutical Association have also had it under study for many years. A joint committee of these groups is studying the problem this year and it will report to the next State Association meeting.

Progress Through Change Is Slow

There is one thing which young people will have to realize, that is, the extremely slow rate at which *progress* through *change* is made. It must at times seem utterly ridiculous to students the way in which *resistance* develops to what appears to be logical suggestions and for years prevents what seems to be very necessary things from taking place.

So it is with many of the problems facing pharmacy and pharmacists. The reciprocity problem with which pharmacists are concerned today is only one of many. It seems that uniform reciprocity regulations will only be accomplished when uniform educational programs and standards and uniform internship standards and requirements are achieved. I should like to point out here very definitely that I do believe in *uniformity*, but not necessarily in *conformity*. I believe we can have uniformity of internship standards without necessarily having conformity. To me, conformity is a depressing factor in progress rather than a stimulating one.

The problem of orienting or introducing an apprentice to his profession has been with pharmacy ever since its beginning in this country. I should like to read a few lines taken from the minutes of the first A.PH.A. meeting in 1852:

> The apprenticeship system which obtains in many parts of the United States, is a subject worthy of the consideration of the Convention. The conditions conducing to mutual advantage between the employer and the employed, are not sufficiently attended to in general. Proprietors often do not consider the fitness of applicants, both as regards natural endowments and preliminary education, with that care and attention that a due regard to such applicants demands, and consequently a large number of inefficient apothecaries are entailed on the country—inefficient from lack of talent, or from disgust at a business for which they have no inclination. More attention to the claims of apprentices, on the teaching of their employers, should be advocated by the Convention as due to the former, as advantageous to the latter, and eventually to the profession.

It is obvious that from the very beginning practitioners of pharmacy in general did not assume the responsibility necessary for the complete orientation of the apprentice to his profession.

Change In Internship Programs

Pharmaceutical education has undergone a series of changes from purely apprenticeship training, to the establishment of schools for evening classes by the local associations of our larger cities, to that of formal education through the two-year requirement, to the three-year requirement, to the four-year requirement, and our most recent step to five years of formal education to take effect in 1960. Each one of these increases in formal education requirement resulted in a corresponding decrease in the apprenticeship requirement.

As the formal education requirement increased to four years, the profession of pharmacy as represented in the State Boards seemed to have lost all sense of responsibility toward the adequate supervision of the educational aspects of this requirement. That this is true was brought out in the most recent of our pharmaceutical

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* Presented to A.PH.A. District IV Student Convention, Madison, Wis., April 21, 1956.

† Professor of Pharmacy and Associate Dean, School of Pharmacy, University of Wisconsin, Madison.

surveys in which the State Boards were told to do something with this requirement or abandon it.

Since the profession was not assuming its share of the responsibility for orienting the apprentice to the profession, the schools attempted to carry out this task. As a result we have the attempts of our schools to make our professional instruction as realistic as possible and with it the introduction of model pharmacy instruction in our schools. Actual pharmacies were set up in the schools in which the students would play at being clerks for one another: telephones in prescription labs, and that type of thing. This was a revolting type of development, educationally speaking; however, we cannot doubt the sincerity of purpose and the honest endeavor made to satisfy a need for which the profession itself should be held responsible. In this day and age, however, we should not confuse education with orientation nor opportunity for adaptation to the practice of the profession with education. The School of Pharmacy cannot teach the latter by creating artificial substitutes for the real thing.

Progress In Internship Programs

If we analyze any internship or apprenticeship training program carefully, we will find that the most essential requirement to the successful outcome of such training is the character and ability of the preceptor. Without a dedicated preceptor, one who is interested in training young people, one who is interested in the professional aspects of pharmacy, whose judgment is sound and mature, whose code of ethics is such that the proper environment is created for the young intern to mature in, and one in which the ideals and outlooks to which he was exposed in his college work will become fixed and remain a permanent record in his mind, an internship program will fail. This is the key to any successful internship program, and any program which we devise should have the *modus operandi* to permit the locating and selecting of preceptors.

Our sister professions, medicine and dentistry, faced the same problem many years ago and went ahead and solved it. Medicine did it cooperatively through the American Medical Association and the American Hospital Association and set up very definite standards for hospitals and also standards for the medical staff if interns were to receive training in those institutions.

Dentistry soon learned it could not depend on the local practitioners to assume the responsibility for clinical training of its interns and centered the responsibility on the schools of dentistry. This was done by establishing large dental clinics in connection with each dental school and requiring a specified number of practice hours in these clinics.

Pharmacy has not solved this problem as yet because we have no single authoritative body such as the A.M.A. or the A.D.A. Several, in my opinion, minor attempts have been made to bring some order out of chaos by the National Association of Boards of Pharmacy, but to my knowledge confusion still reigns supreme; witness Wisconsin's present dispute with the Illinois Board of Pharmacy.

To our credit we should mention what has been done to make the internship program more valuable—

1. The N.A.B.P. has adopted a minimum set of standards for apprenticeship training and these have been adopted by the individual State Boards. My only comment here is that these standards are much too far on the minimum side to be of any great help; nevertheless, it is a step.
2. New Jersey has made a sincere attempt to improve it by requiring the training program to take place after graduation from college. In addition, they have outlined areas of instruction with which the intern is to be confronted. The store must also be approved by the Board of Pharmacy.
3. In Wisconsin, in our initial step, we could not go quite that far. We require two years of college work in the sciences before an internship can be activated. Then the State Board has quite severe regulations on the areas of instruction and performance.
4. I understand Michigan and Illinois have recently changed their pharmacy laws to permit internship training to begin after only one year of college training.

All of these steps mark progress and also indicate how far we still have to go before we reach the ultimate solution to this problem.

Proposals for Future Internship Programs

I would like to propose what I think is the answer to this problem for pharmacy.

First, I propose that the orientation continue to take place where the profession is practiced. At the present time I cannot visualize this taking place on the mass basis that it is in dentistry or medicine. We have our counterpart in the dispensing laboratories but these are not truly representative in the way the dental clinic is. The pharmacy in our largest hospitals is limited in the number of interns it can train because of the limited number of pharmacists employed. I feel we will always have to have a large number of practitioners and pharmacies participating in the training program. We will have to depend on the profession for this activity for many more years.

Second, I propose that the supervision of the internship training program be assigned to the Schools of Pharmacy by the State Boards of Pharmacy. Under this procedure the School of Pharmacy would be responsible for the following:

(Continued on page 476)

THE HAZARDS OF ATOMIC RADIATION*

Is the world headed for a future in which most of its inhabitants will be deformed as a result of man's ability to unleash nature's store of radioactive energy? All nations recognize the potential hazards to victor and vanquished in nuclear warfare, particularly those which could be caused by the beta radiation released by radioactive strontium-90 which is formed in nuclear explosions. It is the hope of mankind that awareness of this hazard will deter all nations from wide-scale use of nuclear weapons.

Hazards of Peaceful Atoms

Harmful effects of radiations have been known for many years. Wilhelm Konrad von Roentgen, discoverer of roentgen rays (x-rays) for whom the international unit of radiation is named, suffered x-ray "burns."[1] Pierre Curie who, with his wife Marie, first isolated radium, was "burned" by the radium salt he carried in his vest pocket. Workers who painted luminous numbers on watch faces suffered local (lips and tongue) and systemic effects (and eventual premature death) from radioactive material transferred to the mouth when brushes were pointed by this method. Those who now work with x-rays, radium and other fissionable material, and those in production centers of radioactive isotopes are protected from harmful radiations by the installation of proper safeguards.

The immediate concern of the group of scientists who reported[2] to the National Academy of Sciences in Washington on June 12 is the effect of the peaceful applications of nuclear energy. What effect will atomic waste have and how should it be disposed of? The relatively small amount now obtained is sealed and dropped into the ocean. What about the fallout from military test explosions? Radio-strontium can settle to earth, where it is concentrated in plants and animals, and can finally lodge in human bone tissue. With a half-life of 28 years Sr^{90} represents the most serious problem among the nuclear explosion products. Test explosions high above the earth would probably yield more vaporized products from "stratospheric holdup" with extremely slow return to earth, as opposed to lower explosions pulling up particles from the earth's surface and returning more rapidly as fallout.

Natural and Additional Radiation

The gonads of the average person in the U.S. are exposed over a period of 30 years to about 4.3 roentgens (r) of radiation from natural sources (minerals, cosmic rays, etc.).[3] The entire population was exposed to that amount of radiation even before the atomic age. The total accumulated dose for 30 years coming from natural sources can be as high as 5.5 r at high altitudes due to cosmic ray activity.

A survey has indicated that medical radiation, x-rays, fluoroscopy, etc., produce in the male sex glands over a period of 30 years about 3 r. It was noted that one dental x-ray delivers 5 r to the jaw but only 0.005 r of stray radiation to the gonads.

Genetic Influence

During the first 30 years of life the total normal exposure (cosmic rays, mineral deposits) is now about 8 r, and exposure above this natural background should be kept to 10 r in order to limit chances of undesirable genetic mutations. About 3 r or 30% of the suggested limit is now being received from medical and dental x-rays and therapeutic radioactive materials. It is suggested that such uses of radiation should be kept at a minimum.

According to the report of the National Academy of Sciences[2] individuals in positions requiring proximity to radioactive materials should not receive a total accumulated dose to the reproduction organs of more than 50 r up to the age of 30 and not more than 50 r additional up to 40 years.

It is possible that jobs in relatively hazardous atomic occupations will, in the future, be assigned to people over 40 years of age. About nine-tenths of the babies in the U.S. are born to parents under 40. The younger people who are potential parents would have to be exposed to radiations from 5 to 10 times

(Continued on page 470)

* A condensation, by Dr. S. W. Goldstein, Director of the Laboratory of the American Pharmaceutical Association, from current literature.

[1] S. W. Goldstein, "Preparing Pharmacy for Its Role in Atomic Medicine," This Journal, 16, 622(1955).

[2] *The Biological Effects of Atomic Radiation*, in two forms: "Summary Reports" and "A Report to the Public," National Academy of Sciences–National Research Council, Washington, D.C. (1956).

[3] The roentgen is the amount of gamma or X-radiation which will produce one electrostatic unit of charge when passing through one cubic centimeter of air.

Typical Days

FROM THE SECRETARY'S DIARY FOR JUNE, 1956

1st Sitting in for a brief period with the National Formulary experts brought here by N.F. Revision Director Powers to give consideration to problems of scope for N.F. XI. Also busy with the auditors and numerous telephone calls covering activities of the National Drug Trade Conference, military affairs, and building problems and preparing for a trip to Chicago.

4th Last night receiving the 1956 Merit Award from Delta Kappa Sigma at the annual dinner of the University of Illinois College of Pharmacy Alumni members of this group, held at the Congress Hotel. And today a visit to A.M.A. headquarters for discussions with Joseph Stettler, who heads the Legal Department and acts as Secretary of the Judicial Council which interprets A.M.A. Principles of Ethics. Also discussing with Dr. Stormont the Council on Pharmacy and Chemistry program dealing with New and Nonofficial Remedies and generic versus trade names controversy with Dr. Kautz, the Secretary of the Council. Later reviewing A.M.A. public relations programs for medicine and pharmacy with P.R. Director Brown. At lunch with Deputy Director Norby of the American Hospital Association at the Lake Shore Club and viewing the progress on the new building which A.H.A. is erecting next to the club. Later a chat with Dr. Crosby, who heads the expanding A.H.A. program. At dinner with Pat Costello, Melvin Green, and Dr. E. C. Elliott.

5th All day with the American Council on Pharmaceutical Education at the Palmer House reviewing accreditation of many schools recently inspected and covering a wide variety of problems in the educational field. In the evening a most pleasant social hour and dinner with the Council members as guests of Dr. E. C. Elliott at the University Club and marveling at the keen insight into the problems of pharmacy as well as education displayed by this elder statesman of many professions and adviser to governmental agencies. Late in the evening on the way to Washington.

7th Now attending a hearing of the House Appropriations Committee's Subcommittee on Independent Offices to give testimony in connection with rearrangement of property in Block 62 which includes the American Institute of Pharmacy and other A.PH.A. property available for expansion of our facilities. It is hoped that both Senate and House will authorize necessary adjustments before adjournment.

15th The early hours of this day occupied with many conferences and preparation of statements, briefs, and discussions on current interprofessional and legislative problems. Today meeting with the A.PH.A. Committee on Public Relations, which is giving major attention to planning for National Pharmacy Week, October 7–13. Chairman Lansdowne and Secretary Rabe of this committee have details well in hand, and the 1956 observance promises to be the best ever.

18th Much of this day devoted to supplying information and urging amendment of the District of Columbia laws regulating distribution and unlawful possession of hypnotic and dangerous drugs. Our special interest lies in preventing unnecessary restrictions on the legitimate distribution of these drugs since Congressional legislation for D.C. might well be used as a model for the states and inject Federal supervision where state control is entirely adequate and generally superior.

25th Considerable discussion with various groups concerned with the coming Fourth Pan-American Congress of Pharmacy and Biochemistry scheduled for Washington in 1957. Also reviewing with the staff the current and prospective programs and building expansion.

27th Today participating in the celebration of the 50th anniversary of the passage of the Food and Drug Act of 1906 which included addresses on all phases of legal, scientific, and professional significance of this legislation. A well-attended luncheon at the Willard and a dinner at the Mayflower Hotel were high spots in the celebration, with ranking Government officials and industry executives participating as speakers.

28th An enjoyable visit with J. B. Turnbull, Secretary of the Canadian Pharmaceutical Association, who came to visit us and inspect our building and facilities. Exchange of information and procedures on many phases of national association work were most interesting to participating members of our staff.

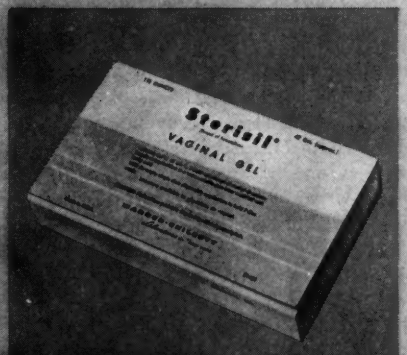
29th This morning a conference with General Ogle, the Surgeon General of the Air Force, discussing the topics covered in A.PH.A. Resolutions dealing with pharmacy in the Armed Forces. It is clear that the Air Force has its own problems based on the principle of maintaining its manpower on a voluntary enlistment basis.

WARNER-CHILCOTT NEWS

Modern Medicine Moves Fast

CAUSE AND CURE DISCOVERED SIMULTANEOUSLY

Warner-Chilcott's New STERISIL Agent of Choice in Vaginitis



MORRIS PLAINS, N.J. — Warner-Chilcott Laboratories has announced release of *Sterisil Vaginal Gel*, a new chemotherapeutic agent for treatment of vaginitis.

Specific Against "Nonspecific"

"Nonspecific" vaginitis was only recently traced to a specific organism—*Hemophilus vaginalis*. Clinical reports now show Sterisil highly effective against this pathogen, as well as against Trichomonas and Monilia.

Opens New Market

A recent survey shows *Hemophilus vaginalis* infections in women are more common than either trichomoniasis or moniliasis. Sterisil promises to open a profitable new market.

High patient acceptance of Sterisil is assured by convenience of appli-

here's your profit picture...

STERISIL® VAGINAL GEL
Brand of hexetidine

	Your Cost	Fair Trade Minimum	Your Profit
1½ oz. tube with 6 disposable applicators	$2.75	$4.59	$1.84 (40%)

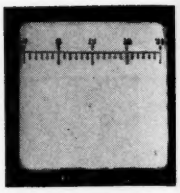
order NOW from your wholesaler!

2. Pill tile of London Soc. of Apoth. (1670).†

Tools of the Apothecary

5. PILL TILES AND SPATULAS

*by George Griffenhagen**



3. Pre-Revolutionary delft pill tile (c. 1770).

The spatula and tile have been in use since ancient times for the compounding of ointments, pills, and numerous other medicaments. Greek and Roman medical authors mention the bronze or copper spatula or "spathomele" on numerous occasions. While the spatula was also employed by physicians as a probe, it was primarily a pharmaceutical instrument. Galen wrote that certain applications are to be softened by means of the spathomele, while Theodorus Priscianus refers to its use for applying ointment to an affected part. The blunt end was employed for stirring medicaments, as evidenced by Marcellus who frequently mentioned such use (Fig. 1).

According to Milne, the Romans also employed small rectangular slabs for rubbing medicaments upon. As they are rarely of the stone of the country in which they are found, they were evidently manufactured in Italy and carried by their owners on their travels to the various Roman provinces. Two such stones in the Archeological Museum at Namur are composed of black marble and measure 11 cm. by 7.5 cm.

The spatula continued to serve as an essential tool of the apothecary through the centuries. According to Joannes Renodaeus (1657): "Spatulas are as it were the Apothecaries second hands. . . . Spatulas are broad at one end, like the blade of a bone, which the Barbarians call *Spatulae* . . . Some are made of Silver, as those little ones which Chirurgeons use; others of Wood, as that rudicle, wherewith they agitate the palmeous Emplaister while it is cocting; others of Iron, as almost all the rest, whether great or small, wherewith the Apothecaries work their soft Medicaments." In 1639, Philbert Guibert described, "a square piece of wood, the thickness of one thumb a foot square," which may have served as a pill tile, and "two great Spatulas of iron, two middle sized, and two little ones" as "necessary to furnish an Apothecary."

In the 17th century, the London apothecaries employed highly decorated pill tiles of a variety of shapes. These tiles, generally square, octagonal or heart-shaped, were made of delftware and usually bore the arms of the Apothecaries' Society in blue or polychrome (Fig. 2). Of the examples extant, some show signs of a good deal of use while others are almost in new condition indicating that they were used primarily to hang in the pharmacy as a sign that the owner was a free member of the Company of Apothecaries.

The pill tile as we know it today, with a graduated scale on the surface indicating the divisions for cutting a rolled mass into individual pills, was introduced in England around the middle of the 18th century, and has remained characteristic of Anglo-American pharmacy through the years. The early pill tiles of this variety were made of delft and were exported to the American colonies prior to the Revolutionary War. The Philadelphia apothecary shop of Christopher Marshall included two "Spathulas—one with a wooden handle [and] one with an iron handle," and two "Tyles" in each of the Continental medicine chests supplied the Continental Congress in 1776. On March 11, 1778, Dr. William Brown, author of the famous *Lititz Pharmacopoeia*, ordered "6 dozen delft ware tiles for mixing Bolus, etc., on," and "3 dozen Bolus Knives" for the Continental Army Hospitals. An example of one of these pre-Revolutionary delft pill tiles is preserved at the Hugh Mercer Apothecary Shop in Fredericksburg, Va. (Fig. 3).

After 1800, most pill tiles were made of the newly introduced Wedgwood. In 1834, G. W. Carpenter of Philadelphia advertised among English imports "Pill Tiles, Wedgwood's 7 by 9 and 8 by 10 (and) graduated 8 by 10." An interesting 19th century Wedgwood pill tile decorated with the American eagle design and the inscription "Real Warranted Wedgwood" is to be seen in Fig. 4. Parrish reported in 1856 that "a pill tile made of porcelain or queensware, is a useful utensil in preparing ointments or pills. Tiles are made in various sizes and are sometimes graduated." With regard to spatulas, Parrish noted, "Of these there are several kinds. The plain steel spatula or palette knife is, perhaps, best adapted to the general purposes of dispensing."

* Acting Curator, Division of Medicine, Smithsonian Institution, and Consultant to the AMERICAN PHARMACEUTICAL ASSOCIATION Museum.

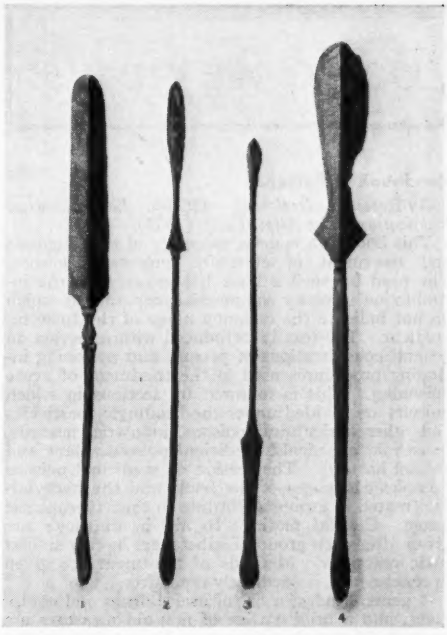
† Courtesy of the Pharmaceutical Society of Great Britain Museum.

Joseph Remington observed that the objection to queensware pill tiles was that "some substance will penetrate through the little fissures in the tile and soil it; these are often very difficult to dislodge, and they usually give the tile a dirty appearance in spite of the most diligent washing." At Remington's suggestion, Whitall, Tatum made a pill tile from plate glass with "the scale graduated by an engraver's wheel, and a little over one-half of its surface ground." In 1875, William E. Van Velsor of Philadelphia had obtained a patent from the U.S. Patent Office for "a glass pill-tile having a ground glass surface to prevent slipping of the pill mass" (Fig. 5).

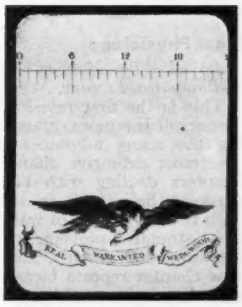
Today the pill tile or ointment glass is required equipment by 39 State Boards of Pharmacy as well as the National Association of Boards of Pharmacy; 4 of these specify that the pill tile must measure 10 by 12 inches. All State Boards of Pharmacy but 8 require from 1 to 6 steel (some specify stainless steel) spatulas in assorted sizes, and 1 to 3 rubber or non-metal spatulas.

Porcelain pill tiles (with the top surface glazed and graduated) are produced in five sizes (152 mm. sq. to 305 mm. sq.) by Coors Porcelain Company of Golden, Colo. Armstrong Cork Company, Lancaster, Pa., offers graduated glass pill tiles, with $^1/_2$ surface etched, in three sizes (8 x 10″, 10 x 12″, and 12 x 12″), as well as glass ointment slabs measuring 12 x 12″. A variety of ointment pads are marketed, such as "Kleen-Mix Ointment Pad" marketed by the Pictorial Paper Package Corporation (Aurora, Ill.); or the "Diamond Ointment Block" listed by John M. Maris (Philadelphia, Pa.). These ointment pads generally consist of 100 disposable 12 x 12″ sheets of grease-proof vegetable parchment.

Spatulas are available with stainless steel blades from 3″ to 12″, while hard rubber spatulas are generally available with blades of 4″ and 6″. Glazed porcelain spatulas are also available in a variety of lengths.

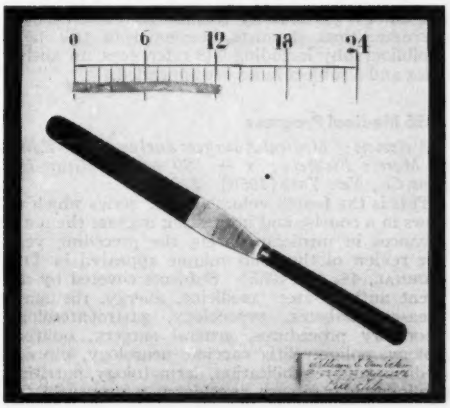


▲ 1. Roman bronze spatulas. From Milne's *Surgical Instruments in Greek and Roman Times.*



4. Wedgwood pill ▶ tile decorated with an American eagle and carrying the inscription "Real Warranted Wedgwood." This pill tile may be seen in the Museum of the University of N. Carolina School of Pharmacy, Chapel Hill, N.C.

5. Original U.S. Patent Office model of the Van ▼ Velsor glass pill tile, 1875 (*Courtesy of Smithsonian*).



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Book Reviews

Handbook of Poisons

By Robert H. Dreisbach. 426 pp. Lange Medical Publications, Los Altos, Calif. (1955). $3.

This book is a concise summary of the diagnosis and treatment of clinically important poisons. The need for such a book has grown with the introduction of many commercial preparations which do not indicate the common name of the toxic ingredient. The text is introduced with a section on general considerations of poisons and poisoning including procedures used in the treatment of acute poisoning. This is followed by sections in which poisons are divided under the headings: pesticides and other agricultural poisons, industrial hazards, household chemicals, medicinal poisons, plant and animal hazards. The section on medicinal poisons occupies 116 pages of the book, and the materials are treated in groups according to their therapeutic usage. Clinical findings to aid in diagnosis are given after each group of substances having similar toxic reactions. Methods of treatment are given in concise form immediately thereafter.

A general index, a list of useful drugs and equipment, and a brief outline of first-aid measures are appended for ready reference. The book is written for the physician, but the pharmacist will find it a handy reference for information the physician might request of him.

Plant Physiology

4th ed. By Meirion Thomas. xii + 692 pp. Philosophical Library, New York (1956). 112.

This is the first revision of the text since 1947. The result is a more extensive treatment incorporating the many advances since the third edition. The most extensive changes will be found in the chapters dealing with enzymes, respiration, and photosynthesis, and in scattered sections dealing with the absorption of water and solutes, transpiration, stomatal movement, Crassulacean acid metabolism, cell growth, and auxins. A completely new chapter reports facts and views about photoperiodism and vernalization and an appendix has been added describing those techniques used in partition chromatography and in experiments with isotopic tracers which have led to some of the developments reported in the main body of the book. The book is particularly valuable as a reference for pharmaceutical chemists interested in this field. A bibliography including 748 references, an author index and a subject index are appended.

1956 Medical Progress

A Review of Medical Advances during 1955. Edited by Morris Fishbein. x + 389 pp. McGraw-Hill Book Co., New York (1956). $10.00.

This is the fourth volume in this series which reviews in a concise and interesting manner the many advances in medicine during the preceding year. The review of the 1955 volume appeared in THIS JOURNAL, **44**, 456(1955). Subjects covered by different authors are: medicine, allergy, rheumatic diseases, diabetes, gynecology, gastroenterology, laboratory procedures, general surgery, ophthalmology, poliomyelitis vaccine, neurology, physical medicine and rehabilitation, dermatology, nutrition, cardiovascular disease, psychiatry, neuropsychiatry, new drugs, endocrinology, ear, nose and throat, and orthopedic surgery. Dr. Paul L. Wermer, in his introduction to the chapter on New Drugs, states: "Probably the most important event of the year in relation to new drugs was the emergence of the ataraxic (ataractic) agents as a new class of medicaments." Classed as ataraxics are rauwolfia, reserpine, chlorpromazine (Thorazine), and Frenquel (α-4-piperidyl diphenyl carbinol HCl). The drugs meprobamate (Miltown, Equanil), and mephensin "probably are more properly considered as nervous system depressants." While production of prednisone and prednisolone represent an improvement over earlier corticoid compounds because of reduced severity and incidence of side effects, "the ideal glucucorticoid substance without mineralocorticoid effect has not been synthesized as yet." Any medical or pharmaceutical reference shelf would be more valuable with this series of books included.

Medical Parasitology

By William G. Sawitz. ix + 342 pp. McGraw-Hill Book Company, New York (1956). $6.

This book, in its second edition, is intended for the use of medical students and practicing physicians. The text is introduced with definitions of terms and a classification of parasites, followed by the major sections under protozoa, helminths, arthropoda, treatment, and techniques for laboratory diagnosis. The chapter on treatment should be of interest to pharmacists. Under each type of infestation, the useful drug or drugs are given, with the description and dosage form, dosage, efficacy, toxicity, and contraindications cited. The text ends with a vocabulary of technical terms, and an index is appended. The book should be available to medical and pharmacy students.

Essays in Biochemistry

Edited by Samuel Graff. x + 345 pp. John Wiley & Sons, New York (1956). $6.50.

This is a compilation of 25 essays on the present status of and future trends in biochemistry. The wide range of the discussions is indicated in the titles which follow: some metabolic products of basidiomycetes; heterogeneity of deoxyribonucleic acid (DNA); biosynthesis of branched-chain compounds; the biochemistry of lysogeny; the development of a plasma volume expander; the very big and the very small: remarks on conjugated proteins; unbalanced growth and death: a study in thymine metabolism; some thoughts on the biochemistry of the steroid hormones; the biochemistry of the bacterial viruses; the biosynthesis of peptide bonds; on the nature of cancer; problems in lipid metabolism; tetrazoles as carboxylic acid analogs; the structural basis for the differentiation of identical groups in asymmetric reactions; the nitrogen-sparing effect of glucose; the metabolism of inositol in microorganisms: a study of molecular conformation and biochemical reactivity; the biochemistry of ferritin; some aspects of nitrogen transfer in biosynthetic mechanisms; on the bigness of enzymes; the biosynthesis of porphyrins; the role of carbohydrates in the biosynthesis of aromatic compounds; on determining the chemical structure of proteins; glycogen turnover; the veratrum alkamines; and the chemical basis of heredity determinants. The material is well presented, with the style of the editor evident in the uniformly-clear manner of statement. The references at the end of each article and the general index add to the book as a reference volume. The format, type, and illustrations are very good. It is an interesting compilation of useful material.

Upjohn

diarrhea...

Kaopectate

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Each fluidounce contains:
Kaolin . . . . . 90 grs.
Pectin . . . . . 2 grs.
in an aromatized and carminative vehicle
Available in bottles of 6 and 10 fluidounces and 1 gallon

The Upjohn Company, Kalamazoo, Michigan

Geriatric Therapy

• • • • • • • • • • • • *from page 458*

papers, radio-TV, adult schools, labor unions, key community organizations such as civic clubs and the Speaker's Bureau of the Community Chest. Organized Medicine has Geriatric Committees functioning on a national, state and county level to help govern and direct most of these activities. Social Security and Old Age and Survivors Insurance are blanketing a segment of the population with a modicum of financial protection but still in the United States only one-fifth of all retired persons are on Social Security. Those persons retiring at 65 years average 13 years to live, and yet only 1 out of 5 has enough income to live in healthy and happy surroundings. Forty per cent need help from outside sources.

Physiological Aspects

Physiological aging is called *senescence* in contradistinction to *senility* which is a disease. From the beginning of time it has been a human characteristic to assume certain disease states to be inevitable and irreversible, and that therapy would be both meddlesome and pointless. This attitude held in our own memory span for cancer, tuberculosis and hypertension. Just as these are now retreating before the march of medicine, so will senility. As the microscope proved to be the tool to defeat infections, so will that atomic by-product, the isotope, constitute the means for solving the riddle of vascular deterioration. Already the mysteries of intermediary metabolism are being unraveled and it is not idle speculation to assume that soon many will live actively well beyond 100 years. Such persons as Hippocrates who remained active until 104, Stradivarius who designed violins at 90, and Thomas Parr who was convicted of rape at 120 may prove to be the rule rather than the exception. Then if people start living to 110 when is a person old?—when should he retire? If he has 30 more years to live, a man of 80 should be in a good state of preservation and 30 years of dependancy would seem intolerable both to him and to society.

Hygiene.—The cornerstone of any program aimed at a fruitful longevity is not the use of any equivocal artery-softening or bone-hardening drugs but rather the following of the basic rules of hygeine. Mental activity must be maintained and this can only be accomplished by presenting to the older person some challenging activity his background has prepared him to accept. Whether the activity is juvenile or erudite depends on the individual. A unique organization called Gericrafts now has trained persons who can visit in homes and institute various types of occupational therapy.

"*Mens sana in corpore sano.*"—A sound mind in a sound body—also holds for oldsters. Proper exercise is a requisite for maintenance of body tone and function. How can life-giving oxygen be assimilated if the lungs are not well ventilated, and without sufficient oxygen, what organ or enzyme system can function properly? It is the unused muscle that atrophies and precipitates nitrogen imbalance, and no known drug can offset the withdrawal of calcium from an unused bone. Also the best appetite excitor is not bitters, insulin or vitamins but, rather, exercise.

Exercise must not be carried to the point of fatigue or ridiculous extremes such as polar bear swimming or parachute jumps. In fact, the avoidance of fatigue should commence early in life. There is no other single factor that predisposes to so much early vascular breakdown. If we fail to heed that fact, there will not be too many of us around worrying about the problems of old age. Hence, between exercise and rest, nature maintains a dynamic balance as in every other phase of life.

Nutrition.—Nutrition presents a vital and effective approach in helping older persons. First, what constitutes proper nutrition remains debatable and much remains to be learned. To date, most nutrition studies have been made on growing rather then senescent animals and their applicability to the latter group lies open to question. We do know that either clinical or subclinical malnutrition frequently exists. In a study of 200 so-called normal patients at the Lankenau Hospital, 65 had iron deficiency anemia and were on diets low in calcium and vitamin B. One must remember that nearly all elderly people have some degenerative disease which in turn would naturally lead to interference with food utilization. Poorly fitting teeth, diminished taste sensation, less digestive secretion and atony of the gut all constitute definite impediments. Clinically speaking, one definitely gathers the impression that utilization of available nutrients is impaired in many older persons although just how, why and where may still be unanswered. The term "biochemical avitaminosis of age" is receiving acceptance. The more vigorously one searches for evidence of subclinical malnutrition it is surprising how often it can be found.

In a patient with such a borderline deficiency, the accentuation of a single vitamin, by raising the metabolic rate and needs, might create signs

of clinical lack of another as, for example, thiamin chloride creating a B-6 deficiency or folic acid creating a B-12 deficiency. Hence complete therapy appears indicated. Just as intravenous protein can be utilized more efficiently than oral, there is some clinical suggestion that parenteral vitamins may be indicated for the more severely debilitated patient.

Obesity is no sign of good nutrition, in fact it is just the reverse. Because fattening foods are easy to prepare and swallow, many older persons, fall into this error. Insurance statistics have proved beyond peradventure of doubt that being overweight leads to an early demise. The concomitant arterial hardening now appears related to the total lipid intake rather than to cholesterol *per se*. The clinical significance of the size of the lipoprotein molecules remains controversial. So, as of 1956 one may again eat eggs for breakfast. Probably the best program is a high protein diet, well balanced in the various nutritive factors, mechanically edible, and accompanied by two glasses of milk.

Therapeutic Measures

As one can gather from the foregoing discussion, the principal emphasis in Geriatrics lies in Preventative Medicine in the broad sense of the term. The necessity of gearing therapy to the patient's age has only recently been recognized. For example, consider the effect of barbital derivatives which among other things tend to decrease cerebral circulation. This in turn leads to mental confusion and agitation—just the reverse of the anticipated effect. A cup of coffee with its stimulating caffeine content and warmth actually might be more soporific. In dealing with elderly persons all medication must be administered with gentleness and patience. One must remember that the tempo of recovery is necessarily slow. Too abrupt and vigorous an approach merely results in organic or psychiatric breakdown.

Age *per se* is no contraindication to surgery. It is the patient's own peculiar situation that matters. In the past year I have seen two 99-year-old women benefit from the aseptic scalpel with no untoward reactions. Surgery has truly proved a Godsend in the pinning of fractured hips, even though 50 per cent may never fully heal. It has relieved a nursing nightmare and obviated a slow, miserable death for the patient. Crush-fractures of the spine due to osteoporosis are becoming increasingly evident as a cause of back pain. Frequently dramatic relief can be obtained by the use of mixed, slowly absorbed hormone therapy. Oral mixed hormones in small amounts as a tonic not only create a sense of well being but also may decrease the tendency toward fractures. However, hormones administered over prolonged periods must be used with caution.

Medically speaking the former "Captain of the Men of Death," alias "The Old Man's Friend," alias pneumonia, has been deposed by the antibiotics, leaving vascular accidents to reign now as the prime cause of death. Prevention appears to lie in proper hygiene and nutrition as outlined above. Choline and inositol in prophylaxis and anticoagulants in therapy of cerebrothrombosis have all proved disappointing. The big advance in handling cardiovascular accidents has been in the use of prompt and vigorous physiotherapy abetted by antispasmodics and now by the promising lissive drugs.

The failing heart poses an ever present problem, but now with the ubiquitous low salt diets, various digitalis derivatives, and both parenteral and oral diuretics, these cases can continue active and happy for years. In addition, this program frequently reverts their high blood pressure to normal. The question of just how vigorously one should attempt to lower blood pressure in the hypertensive elderly patients is open to debate. The host of etiologic possibilities that one must consider in younger individuals have mostly been ruled out by time. The patient with his pipestem arteries has usually assumed a homeostatic physiologic balance over the years, the upsetting of which might well do more harm than good. So the extent of treatment appears to rest not on the level of pressure but on the presence or absence of symptoms. *Rauwolfia* derivatives and perhaps some of the new tranquilizing drugs seem to be the only medication indicated.

The greatest burden on society comes from the large number of persons suffering from chronic cerebral deterioration. Avitaminosis may occasionally play a role but usually the chronic brain syndrome results from faulty blood supply on a vascular basis. In preventing the relentless advance of this situation a few drugs perhaps show some effect as psychomotor stimulants. Although to date they may not be very impressive they do constitute a new step in the right direction. For the agitated senile, chlorpromazine and promazine have proved a tremendous advance—enabling many homes to care for patients that otherwise would require transfer to mental institutions.

It probably would not be fitting or proper to discuss therapy in old folks without mentioning that paramount item of interest—the bowels and their movements. Although scientific evidence

fails to show that frequent and regular bowel movements are requisite for good health, there are not many oldsters who will agree. So the advent of the hydrophilic muciloid or other bulk-producing, fecalith-softening products has proved a great boon to physician and patient alike. Or to express it the way of Josh Billings, "I have finally kum to the konklusion that a good reliable set of bowels is worth more tu a man than enny quantity of brains."

Summary

Present trends in the field of geriatric care emphasize the need of treating the whole person in relation to his total environment. For better or worse the average life span continues to lengthen and the population percentage of older persons assumes commanding proportions. If society adopts a laissez-faire attitude it soon will be overwhelmed by a noxious mass of friendless, homeless, cheerless souls existing aimlessly, devoid of dignity, and waiting impatiently for the grim reaper. The sociological, economical, spiritual and medical aspects of the problem are interdependent and the failure of one could result in the failure of the whole.

Senility is a disease that one day will yield to our ever expanding medical horizons. Senescence should be a golden era of mature thought and understanding based on irreplaceable experience. To achieve this end one's mind must be kept active, the body tone stimulated by exercise, fatigue avoided, protein and nitrogen balance maintained by proper nutrition and medication, the arteries kept soft and the bones kept hard.

Sociologists are acutely conscious of the problem and threaten to usurp the initiative by default from the medical profession. The economic aspects are pressing but confused and the basic concept of age constituting a barrier to employment must be refuted. The clergy has always assumed pastoral care as a traditional part of the ministry and recognition of this vital spiritual role is exemplified by the large number of clergy now receiving additional training in the understanding of human behavior.

Therapeutically speaking, the field of geriatrics formerly lay barren, being approached by an attitude bordering on nihilism because of the unpredictable effects of the usual medicaments. Now the field blossoms with innumerable panaceas—some of which actually seem to have some effect. In the forefront are dietary supplements, lipotrophic factors, hormones, and stimulating, tranquilizing, antispasmodic and lissive drugs. So the future bodes well for adding life to our additional years.

Atomic Radiation

• • • • • • • • • • *from page 461*

the average radiation they now receive from natural background (30 to 80 *r*) before the possible genetic damage to future generations would be doubled.

Atomic Reactor Accident

No atomic power plant has had a catastrophic accident such as could result from a runaway reaction. The chances of one occurring are remote. However, in May 1956, the Joint Committee on Atomic Energy heard from AEC Commissioner W. F. Libby what might happen if an atomic power reactor rated at 100,000 kw., operated at full power for 100 hours, released all its accumulated fission products. There would be no terrific explosion or mushroom cloud but the equipment and the structure would probably be vaporized. The area of contamination could be as much as 50 square miles with property damage between $50 million and $200 million. If the area had a population density of 200 to 500 per square mile, 50 people could be killed and 500 exposed to dangerous radiation even with prompt evacuation of the area.

The chairman of AEC's advisory committee, C. R. McCullough,[4] told the Joint Committee that once a runaway reaction starts, no human being could react fast enough to stop it. He stated that reactor accidents are prevented through careful reactor design by relying on competent people, careful, conscientious, and skillful operation, adequate maintenance, and a good deal of luck. With future atomic reactors possibly rated at 1,000,000 or more kilowatts, technical knowledge must be developed to diminish the factor of luck to zero.

The conclusion of the National Academy of Sciences, based upon the report by many experts, is:

> *"It is clear that the safe and rational growth of a nuclear power industry involves more than designing individual plants. The presence of a single large installation will be felt, in various ways, over a wide region. Obviously, it will not do to let nuclear plants spring up ad lib, over the earth. The development of atomic energy is a matter for careful, integrated planning. A large part of the information that is needed to make intelligent plans is not yet at hand."*

The recommendation was also made that records be kept for every individual showing his total accumulated lifetime exposure to radiation.

The American Osteopathic Association reports that approximately 93% of its 8,320 members are practicing in states where there are no, or very few, limitations in the extent to which osteopathic physicians can prescribe drugs—in other words, "unlimited practice" states. In a survey of 286 members selected at random from their directory, they found that in the uniimited practice states 96% of the osteopaths write prescriptions. Thirty-six per cent of the osteopathic physicians reported they were writing 8 or more prescriptions per working day; 26% said they were writing 4 to 7 per day.

[4] *Chem. and Eng. News*, 34, 2702(May 28, 1956).

MEMBERSHIP RECORDS

THE ASSOCIATION EXTENDS A CORDIAL WELCOME TO THE FOLLOWING MEN AND WOMEN WHO WERE ACCEPTED FOR ACTIVE MEMBERSHIP DURING THE MONTH PRECEDING PREPARATION OF THIS ISSUE.

ARIZONA

Lightfoot, Cecil D., Phoenix

CALIFORNIA

Cadoo, Robert H., Inglewood
Collins, Roy O., Hollywood
Domingo, Corazon A., Lynwood
Hames, Vincent F., Orinda
Hart, James P., El Cerrito
Imamoto, Arthur Y., San Mateo
Kotler, Willard B., Los Angeles
Murphy, Robert E., Fresno
Pine, Marsh C., Chico
Sant, Adrian G., San Mateo
Wong, William, San Francisco

DISTRICT OF COLUMBIA

Coakley, A. E.
McNeill, Melba Lois
Mees, Jed L.

FLORIDA

Fontanet, Josephine, Miami

GEORGIA

Adair, Guy E., Atlanta
Clifton, Cecil L., Atlanta
Harkrider, Robert E., Atlanta
Riley, J. Vinson, Atlanta

IDAHO

Knopp, E. B., St. Maries

ILLINOIS

Chang, Betty Wu, Park Forest
Clemens, Kurt J., Park Ridge
Marlow, Robert E., Tamaroa
Sopocy, Martin, Lake Forest

INDIANA

Bennett, Bernard E., Gary
Bredy, B. H., Beech Grove
Elliott, Charles R., Indianapolis
Holsapple, Paul A., Indianapolis
Myers, Richard L., West Lafayette

MARYLAND

Raimondi, Florence E., Baltimore

MASSACHUSETTS

Dee, William H., Jr., Reading
Kennedy, Maurice S., Holyoke

MICHIGAN

Archie, Frank, Detroit
Creagan, Donald R., Ann Arbor
Gould, Barbara E., Ann Arbor
Grettenberger, O. K., Lansing
Hazelton, Homer W., Centerline
Janik, Mary F., Dearborn
Johnson, Carl, Pleasant Ridge
Lischer, Carl F., Royal Oak
Miller, Maxwell H., Detroit
Peck, Garry F., Port Huron
Trahan, John F., Bay City
Vivian, Douglas L., Flint
Webb, Elwood B., Detroit
Winkel, Joseph J., Menominee

MINNESOTA

Peterson, Ivan E., Grand Rapids

MISSOURI

Hensley, Homer C., Owensville
Peterson, James A., Brentwood

NEBRASKA

Belitz, John F., Omaha

NEW HAMPSHIRE

Coles, Clifford H., Keene

NEW JERSEY

Ball, Arthur D., Packanack Lake
Blake, Edward M., Ridgewood
Dunne, Theodore F., Fort Lee
Hensler, William T., Irvington
Hill, John A., New Brunswick
Huber, John, Hackensack
Kochera, Joseph W., Linden
Martini, Emil P., Jr., Hackensack
Princer, I. Edward, Newark
Scanlan, James J., Hillside
Scott, Albert B., Westfield
Sullivan, J. Dennis, Bloomfield
Tilly, Paul F., Boonton

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Burt, W. W., Deming
D'Ambrosio, Jack, Albuquerque

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Boschetti, Armando, South Ozone Park
Dwulit, Thaddeus J., New York City
Hertz, J. J., Renaselaer
Iacono, Anthony M., Brooklyn
Jehle, Felix A., Brooklyn
Liebrand, Jerome T., Brooklyn
Martin, Arthur H., Tonawanda
Murphy, Mary E., Wevertown
Nettina, Carmen E., Buffalo
Ortenzi, Leonard M., Kenmore
Pellegrino, Stephen J., Brooklyn
Pomerantz, Edwin, Brooklyn
Reed, Charles C., Pearl River
Shephard, Paul E., Buffalo
Souler, Benjamin K., Syracuse
Stack, Robert M., Mount Vernon
Stewart, Hugh R., Garden City
Trueman, Walter, New York City

NORTH CAROLINA

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Grandy, John I., Charlotte
Hill, Jonathan A., Charlotte
Leonard, Thomas D., Charlotte
Milliones, Peter T., Charlotte

NORTH DAKOTA

Black, Harlan B., Minot

OHIO

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Chatfield, Frank A., Cleveland
Clauson, Harold, Cincinnati
Edwards, Vernon S., Canton
Koffler, Anna H., Ada
Lelliott, Richard J., Cleveland
Shatten, Larry A., Cleveland
Watson, Romayne, Toledo
Williamson, Clarence K., Oxford

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Heaney, Frances M., Tulsa
Murray, Eric R., Duncan

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Gannon, Edward P., Jr., Wilkes-Barre
Morgans, David J., Roslyn
Pauly, William J., Apollo

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Smith, Francis L., Cranston

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Schwartz, M. L., Huron

TENNESSEE

Bruer, Charles E., Jackson

TEXAS

Gray, Spurgeon N., Liberty
Krummenacher, Bruce, Dallas

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Galley, Roland P., Arlington
Norton, John E., Richmond

WASHINGTON

Thompson, William H., Kennewick

WEST VIRGINIA

Beck, Calvin H., Weirton

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Hoffman, Marian, Steven's Point
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Incompatibility of Phenols

• • • • • • • • • • *from page 453*

Experimental

Since the point at which complex formation, as manifested by a cloudy white precipitate, is clearly visible, depends upon the concentrations of the interactants, the type of phenol, and the type of Pluronic, each of these variables was studied.

Materials—Pluronics L 62, L 64, and F 68; phenol, betanaphthol, resorcinol, and tannic acid. All of the chemicals employed, the Pluronics excepted, were of U.S.P. or N.F. grade.

Procedure—All of the solutions used were prepared according to best volumetric technique. Each run was repeated at least once to minimize error.

Exactly 10 ml. of the solution to be studied was pipetted into a 30-ml. beaker held in an ice-water mixture. The other solution was then added dropwise through a 10-ml. burette with constant agitation of the reaction mixture. That point at which the precipitate could not be dissolved by simple agitation was regarded as the "end point."

Discussion

As shown in Tables I and II, the use of dilute solutions of the reactants yields data as would be expected *i.e.*, a decrease in the concentration of one reactant requires an increase in the concentration of the other for manifestation of the end point. It is important to note that this pattern apparently prevails no matter which of the reactants is used as the titrant. When, however, the phenol is used as the titrant and the concentration of the Pluronic in the sample is initially high and then varied, this pattern no longer prevails. Indeed, the data in Tables III and IV show a quite different picture—one in which it seems that a decrease in the concentration of Pluronic favors the end point. Though these data appear to be in direct conflict with those in Tables I and II, the inconsistency may be resolved without too much difficulty by referring to the generally known properties of large, surface-active molecules.

The fact that large, surface-active molecules may exist in solution as micelles is well known. These micelles may, and apparently do, act as solvent centers for species which would ordinarily be insoluble. It would appear that this is precisely the phenomenon responsible for the peculiarity of the data in Tables III and IV. That is, the large excess of uncomplexed Pluronic serves to solubilize the complex formed. That an end point can be obtained at all is probably due to the fact that, as increasing quantities of the phenol are added, more and more of the Pluronic is complexed until there is an insufficient excess to solubilize all of the complex. This ability of the surface-active polyethers to solubilize, and thereby mask, ordinarily insoluble complexes may be indirectly responsible for difficulties in formulation. If, for example, it is known or calculated that a definite quantity of an agent such as a Pluronic is necessary for maintenance of the stability of an emulsion or suspension, interaction between the stabilizer and one or more of the active ingredients will decrease the *effective* concentration of the stabilizing agent. Since this may go unnoticed as a result of the solubilization discussed above, a product which appears quite satisfactory initially may soon break down.

TABLE I—TITRATION WITH PLURONIC L 62

Volume of a 1% Solution of Pluronic L 62 Required for Manifestation of the End Point with Various Solutions of Different Phenolic Substances

Phenol		Betanaphthol		Tannic Acid	
%	ml.	%	ml.	%	ml.
5.0	0.08	0.10	0.10	0.10	0.60
2.5	0.17	0.09	0.15	0.05	1.20
1.25	0.34	0.08	0.20	0.025	1.45
0.63	0.44	0.07	0.24	0.013	3.95
0.50	0.54	0.06	0.27	0.006	6.80
0.40	1.15	0.05	0.74	0.003	10.00
0.35	9.78	0.04	4.70	0.002	20.00
0.30	N.R.	0.03	N.R.[a]	...	...

[a] N.R.—No reaction was noticed.

TABLE II—TITRATION WITH RESORCINOL AND TANNIC ACID

Volume of Different Solutions of Resorcinol and Tannic Acid Required for Manifestation of the End Point Upon Addition to a 1% Solution of Pluronic L 62

Resorcinol	Volume	Tannic Acid	Volume
%	ml.	%	ml.
1.0	4.09	1.0	0.18
0.9	4.25	0.125	0.25
0.8	5.68	0.10	0.60
0.7	6.54	0.05	1.23
0.6	10.00	0.025	1.46
0.5	16.70	0.013	3.95

TABLE III—TITRATION WITH BETANAPHTHOL SOLUTION

Volume of a 0.1% Solution of Betanaphthol Required for Manifestation of the End Point with Various Solutions of Pluronics L 62 and F 68

Pluronic	Pluronic L 62	Pluronic F 68
%	ml.	ml.
20.0	19.05	18.80
10.0	9.80	10.20
5.0	8.00	7.75
2.5	7.50	7.40
1.25	6.70	...
0.60	6.05	...
0.30	6.20	...
0.15	6.10	...

TABLE IV—TITRATION WITH RESORCINOL SOLUTIONS

Volumes of Different Resorcinol Solutions Required for the Titration of Different Solutions of Pluronic L 62

Conc. Pluronic, %	Resorcinol 70%, ml.	Resorcinol 80%, ml.	Resorcinol 90%, ml.
20.0	0.68	0.84	0.67
18.0	0.54	0.69	0.58
16.0	0.45	0.58	0.48
14.0	0.37	0.47	0.41
12.0	...	0.44	0.32
10.0	...	0.23	0.21
8.0	...	...	0.17
6.0	...	...	0.13

TABLE V—TITRATION WITH PHENOL SOLUTIONS

Volume of Solutions of Phenol Required for Titration of Various Solutions of Pluronics L 62, L 64, and F 68

Conc. Phenol, %	Conc. Pluronic %	Pluronic L 62 ml.	Pluronic L 64 ml.	Pluronic F 68 ml.
7.0	10.0	0.73	0.86	3.20
"	5.0	0.66	0.77	2.15
"	1.0	0.65	0.83	1.56
"	0.50	0.67	0.81	1.56
"	0.10	0.70	...	...
3.5	10.0	1.42	1.28	6.26
"	5.0	1.76	1.17	4.78
"	1.0	1.56	1.16	3.53
"	0.50	1.85	1.22	3.44
"	0.10	1.80	...	...
0.70	10.0	12.45	11.46	N.R.[a]
"	5.0	10.95	11.10	N.R.
"	1.0	11.32	12.98	...
"	0.50	11.92	13.41	...
"	0.10	12.02	N.R.	...

[a] N.R.—No Reaction.

What is perhaps more important—one or more of the supposedly active ingredients may be so "tied up" as part of a complex that it is unable to function in the manner intended. Once again, the presence of excess surface-active agent may prevent recognition of this undesirable situation. It would therefore seem quite profitable to perform preliminary test tube experiments when the use of these polyethers is contemplated.

The importance of careful preliminary testing is further shown by the difficulty in generalizing even from seemingly complete data. Data representative of Pluronic–phenol interactions are given in Tables II and IV. From these data it is immediately obvious that although the concentration of phenol will affect the position of the end point, generalization is very difficult.

It is most unfortunate that even the effect of the type of Pluronic is difficult to interpret. One might assume from Table III that this is unimportant. Table V shows, however, that the chemical character of the polyether may be not only of considerable importance but actually critical.

National Pharmacy Week

• • • • • • • • • • • • *from page 449*

foster co-operation by pharmacists in their respective efforts to promote research and education intended to reduce the incidence of major diseases and to provide essential information on their early recognition and prevention or cure to the millions of visitors to retail pharmacies each month.[7]

The over-all participation in the observance of 1953 National Pharmacy Week was the most gratifying example of co-operation in this important public relations effort since its inception, according to B. R. Mull, Chairman of the Committee on Public Relations of the A.PH.A.[8]

The 1954 National Pharmacy Week was considered by Chairman J. Warren Lansdowne to be the most successful observance in the history of the celebration. The success was credited to "more releases, more and expanded radio-television-press coverage, more general contacts with the public."[9]

Significant Objectives

To enlighten the public concerning the *significance and importance of the pharmacy as a public health agency* has been one objective of the promotion during the past 29 years of Pharmacy Week observances. To make the public cognizant of the steps taken *to raise the profession to a high level of ethics* has been another motive of Pharmacy Week. The pharmacist has also been made aware of his responsibility as a dealer in potent drugs to the public. The tarnished reputation of the corner druggist has, through the medium of these campaigns, begun once again to glitter brightly as a responsible businessman in the community he serves. Every pharmacist must do his best in making Pharmacy Week a year-round observance.

[7] Fischelis, Robert P., "Twenty-Seven Consecutive Years," THIS JOURNAL, **14**, 630(1953).
[8] "1953 National Pharmacy Week," THIS JOURNAL, **15**, 158(1954).
[9] "Pharmacy Week Awards," THIS JOURNAL, **16**, 86(1955).

Dr. Albert Claflin

Dr. Albert W. Claflin, President of the Rhode Island College of Pharmacy and Allied Sciences, passed away on June 18 at the age of 71.

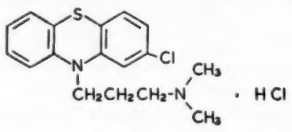
Dr. Claflin was graduated from Brown University in 1906 and received the Master of Science degree there in 1907. In 1909 he was graduated from the Rhode Island College of Pharmacy and received a Doctor of Pharmacy degree there in 1912.

He joined the George L. Claflin Company, pharmaceutical manufacturers, in 1907 and later served as President and Treasurer for many years. From 1946 to 1947 Dr. Claflin was Grand Master of the Grand Masonic Lodge of Rhode Island and was a member of the American Philatelic Society and the Collectors Club of New York.

He was President of the Rhode Island College of Pharmacy and Allied Sciences from 1937 to the time of his death.

New and Nonofficial Remedies

CHLORPROMAZINE HYDROCHLORIDE; Thorazine Hydrochloride (S.K.&F.); 2-Chloro-10-(3-dimethylaminopropyl)phenothiazine hydrochloride.



Actions and Uses.—Chlorpromazine hydrochloride, one of the phenothiazine group of compounds, produces depression of the central nervous system. Generally, the electroencephalographic patterns are not altered with the usual dose in normal patients, although some variation has occasionally been reported. It suppresses or abolishes conditioned reflexes in trained rats. It also exhibits a depressant action on certain neural centers in experimental animals, resulting in suppression of vomiting from apomorphine hydrochloride, irradiation, and motion sickness, but, in animals, does not affect the emesis from morphine, veratrum alkaloids, digitalis, and copper sulfate. In addition to these main pharmacological actions, chlorpromazine hydrochloride also possesses weak adrenolytic, hypotensive, antispasmodic, hypothermic, and antihistaminic effects and is capable of potentiating the action of many other agents.

Chlorpromazine hydrochloride is effective when administered orally, intramuscularly, or intravenously. The onset of action is rapid, particularly after parenteral administration. Little is known concerning the metabolic fate of the drug in the body, although current evidence suggests the liver as a possible site of detoxication. After repeated doses, a slight amount of tolerance develops, particularly to the hypotensive and hypnotic effects.

Chlorpromazine hydrochloride has been found useful for the treatment of the nausea and vomiting associated with certain disorders including carcinomatosis, uremia, acute infections, and nitrogen-mustard therapy. Although the use of chlorpromazine hydrochloride in pregnancy for the usual "morning sickness" of the first trimester must be regarded as experimental, it may be tried for controlling hyperemesis gravidarum as a complication of pregnancy, preferably before the onset of liver damage. Its antiemetic effect has been reported as useful in radiation sickness, for the nausea and vomiting produced by certain drugs (including some antibiotics), and for the control of postanesthetic and postoperative nausea and vomiting. It has not been successful in motion sickness. Chlorpromazine hydrochloride often is successful in controlling hiccups refractory to other forms of therapy and in the treatment of status asthmaticus. The drug finds its widest use in alleviating manifestations of anxiety, tension, agitation, and of lessening motor activity in both psychoneurotics and psychotics. It appears to be of no value in reducing the frequency or intensity of seizures in epilepsy.

The sedative and antiemetic actions of chlorpromazine hydrochloride have been reported to facilitate treatment in acute alcoholism.

Chlorpromazine hydrochloride produces a number of side-effects and toxic reactions, some of which are serious. Cases of severe and fatal blood dyscrasias, including agranulocytosis, in some instances associated with hypoplastic anemia and leukopenia, have been reported after use of this drug. It should be immediately discontinued if patients exhibit evidence of bone marrow depression; physicians should also be alert for any toxic hematopoietic effects, fever, or sore throat. Peripheral blood cell counts are indicated at the onset of such symptoms during therapy.

Jaundice occurs in a significant percentage of patients receiving chlorpromazine. It usually occurs during the first two weeks of treatment but occasionally may not be evident until some time after discontinuance of the drug. Physicians are cautioned against administration of the drug to patients with either the presence or history of jaundice or liver damage.

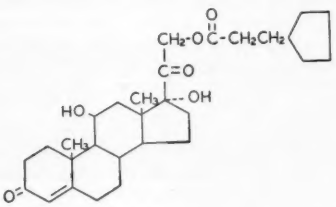
Orthostatic hypotension is a frequent side-effect of chlorpromazine therapy, particularly after parenteral administration. The drug should be given with extreme caution to patients with arteriosclerosis, cardiovascular disease, or other conditions in which a sudden drop in blood pressure may be undesirable. When parenteral administration is to be carried out, the patient must remain in the supine position for at least one hour after the injection. When necessary, pressor agents such as phenylephrine hydrochloride or levarterenol bitartrate may be used to control hypotension. Alarming reactions with failure to respond to pressor agents have been reported from even small intravenous doses. Epinephrine should never be used for this purpose, since the adrenolytic action of chlorpromazine hydrochloride may cause epinephrine reversal.

Sedation and drowsiness, which are desired therapeutic effects in the treatment of acute anxiety and severe agitation, may become unwanted side-effects in other conditions. Other side-effects include tachycardia, hypothermia, dryness of the mouth, dermatitis, photosensitivity, nausea and vomiting, and a Parkinson-like syndrome. With the exception of the latter condition, most side-effects are usually not severe enough to warrant discontinuing the drug therapy. Because of its potentiating action with many other drugs, chlorpromazine hydrochloride should be used with caution in conjunction with other agents, particularly barbiturates, narcotics, and general anesthetics. Its use is contraindicated in comatose patients or those under the influence of large doses of alcohol or other central nervous system depressants.

Dosage.—Chlorpromazine hydrochloride is administered orally, intramuscularly, or intravenously. The dosage must be highly individualized from patient to patient, according to the severity of the condition and the degree of response; the smallest effective dose should always be used. Oral dosage ranges from 10 to 400 mg. or more per day. Dosage for children is reduced proportionately. Deep intramuscular injection is the preferred parenteral route, with the dosage for adults ranging from 25 mg. per day for mild nausea and vomiting to as much as 400 mg. per day for acutely agitated manic patients. Because of the added danger of severe

hypotension, extreme caution should be exercised in giving the drug intravenously. Because of reported instances of fatal shock, all forms of parenteral administration should usually be reserved for bedfast or hospitalized patients.

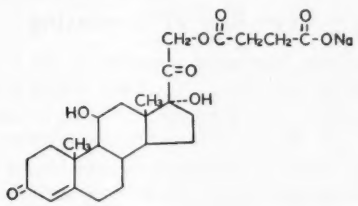
HYDROCORTISONE CYCLOPENTYLPROPIONATE; Cortef Fluid (Upjohn).—17-Hydroxycorticosterone-21-cyclopentylpropionate.



Actions and Uses.—Hydrocortisone cyclopentylpropionate, an ester of hydrocortisone, exhibits the same systemic actions and has the same potency as equivalent amounts of hydrocortisone. It is somewhat more palatable and more slowly absorbed from the gastrointestinal tract than the parent hormone. (See the monograph on hydrocortisone in *New and Nonofficial Remedies.*)

Dosage.—Hydrocortisone cyclopentylpropionate is administered orally. The dosage, expressed in terms of the parent drug, is the same as for hydrocortisone.

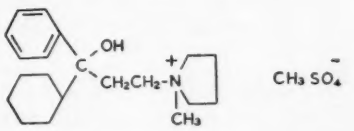
HYDROCORTISONE SODIUM SUCCINATE; Solu-Cortef (Upjohn); Sodium 17-hydroxycorticosterone-21-succinate.



Actions and Uses.—Hydrocortisone sodium succinate is a highly soluble ester-salt of hydrocortisone with the same actions as the parent hormone. In general, the indications for its use are the same as for an infusion concentrate solution of hydrocortisone, but its greater solubility makes possible its administration in much smaller volumes of diluent. Thus, hydrocortisone sodium succinate is suitable for parenteral administration in the management of emergencies amenable to intense corticoid therapy. Its use is indicated in shock-like syndromes resulting from acute adrenal cortical insufficiency, acute hypersensitivity reactions, status asthmaticus, and disseminated lupus erythematosus in relapse and in overwhelming infections with acute toxic reactions in which sufficient time has not elapsed to allow concurrently administered antibiotics to become effective. Since administration of hydrocortisone sodium succinate involves the same inherent dangers as does the use of cortisone or hydrocortisone, its parenteral administration is intended only for short-term emergency therapy. (See the general statement on gluco-corticoids in N.N.R.)

Dosage.—Hydrocortisone sodium succinate may be administered intravenously or intramuscularly. The dosage, expressed in terms of the parent drug, is the same as that for hydrocortisone. In emergency situations, a solution containing the equivalent of 100 mg. of hydrocortisone may be dissolved in 2 cc. of sterile water or isotonic sodium chloride solution and administered intravenously over a period of at least one-half minute. Thereafter 50-mg. doses may be similarly injected as required. When it is necessary to continue emergency treatment, intravenous medication may be replaced by intramuscular injection of 50-mg. doses. These may be repeated at appropriate intervals not to exceed 6 hours during the first day of therapy. In patients with acute hypersensitivity reactions, 100 mg. may be given intravenously every 4 to 6 hours. Hydrocortisone sodium succinate may also be dissolved in sterile isotonic sodium chloride solution containing 5% glucose and administered by intravenous drip. When prolonged gluco-corticoid therapy is indicated, oral medication with cortisone or hydrocortisone should be substituted as soon as practical. (See the monographs on cortisone and hydrocortisone in N.N.R.)

TRICYCLAMOL METHYLSULFATE; Elorine Methylsulfate (Lilly); 1-Cyclohexyl-1-phenyl-3-pyrrolidino-1-propanol dimethylsulfate.



Actions and Uses.—Tricyclamol methylsulfate is an anticholinergic agent qualitatively similar in action to other drugs of that class. Available evidence indicates it is less effective in reducing secretory activity than hypermotility of the gastrointestinal tract and that the drug offers no advantage over other anticholinergic drugs such as methantheline and methscopolamine from the standpoint of overall effectiveness, toxicity, or side-effects.

Tricyclamol methylsulfate may be employed clinically for the control of functional spasm of the gastrointestinal tract as an adjunct in the treatment of peptic ulcer, chronic gastritis associated with hyperacidity, pylorospasm, and irritable colon (mucous, spastic colitis).

Tricyclamol methylsulfate may produce atropine-like side-effects characteristic of anticholinergic agents. Mouth dryness is most commonly encountered at therapeutically effective dosage levels. Occasional paralysis of ocular accommodation and infrequent difficulty in urination have been observed. As with other anticholinergic agents, the drug usually is contraindicated in glaucoma and should be employed with caution in patients with cardiac decompensation or coronary insufficiency, cardiospasm or achalasia, unrelieved duodenal obstruction, and prostatic hypertrophy or bladder neck obstruction. One case of psychosis resulting from toxic reaction to the drug requires further investigation. Until longer experience has been gained, physicians should be alert to the possible development of serious untoward effects that may result from continued use of the drug.

Dosage.—Tricyclamol methylsulfate is administered orally. Individual requirements for this drug vary widely, ranging between 50 and 500 mg., and averaging 100 to 150 mg. It is suggested that patients be started on a trial dosage of 50 mg. four times a day. This should be increased until a satisfactory response is obtained or the individual's tolerance is reached. The frequency of administration may be increased to six times a day, if indicated.

Internship Programming

• • • • • • • • • • *from page 460*

1. Stating the objectives to be attained from the training program and outlining the areas of instruction to be given.
2. Selecting the preceptors to whom the interns could apply for training.
3. Conducting preceptorship training courses in order to acquaint the preceptor with his responsibilities and the objectives of the program; also, how they might best be carried out.
4. Certifying to the State Board of Pharmacy the successful conclusion of this program by the intern—similar to our certification at the present time to graduation from college.
5. Recommending that all internship training take place after graduation from the professional school.

The State Board of Pharmacy would still retain the right to approve or disapprove preceptors because of violations of any kind and would retain the right to examine and approve candidates for licensure.

Under this procedure uniformity would be gained by having all interns initiate their training with comparable backgrounds and comparable states of maturity. Objectives could be made uniform throughout the states and thus the uniformity necessary for reciprocity could be readily achieved.

I should like to make the point, however, that *the methods* by which the supervision of this program takes place and the methods by which the intern is governed, and the relationship between the preceptor and the School of Pharmacy *may vary according to the individual schools*—just as the methods of instruction and course treatment vary in our schools today. However, our course objectives are the same, and I venture to say are achieved, even though procedures may vary. This is uniformity without conformity.

A year ago the Wisconsin State Board of Pharmacy and the School of Pharmacy cooperated on an experimental basis with this program. Two students were asked to volunteer as participating interns, and a number of things were successfully tried. The discussion of the details of the training will be left for Mr. O. L. Lundgren,[1] an experienced preceptor. No reason could be found why this program could not work on a mass basis, and we have proposed that this type of program be adopted in Wisconsin. How long it will take to be accepted by the other necessary agencies I do not know. However, I do know that I will not rest until this aspect of a young person's education in pharmacy is made to serve the purpose it should serve.

[1] Mr. O. L. Lundgren also participated in the panel discussion of which this paper formed a part and he was one of the preceptors selected to take part in the experimental program.

Detrimental to Pharmacy

Pharmacy must constantly be on the alert for evil practices which may creep into the profession to undermine its ethical principles and prestige. The following are recent examples of detrimental situations:

1. The Louisiana Practical Druggists' Association has attempted to have legislation introduced into the Louisiana legislature which would permit 10 years of experience in a drug store to be accepted as adequate preparation for examination by the State Board for Licensure. The title obtained would be "practical druggist" and no college education would be required.

2. National Enterprises of Baltimore, Md., has prepared vending machines for aspirin and vitamins. If such machines are allowed to be set up publicly, unrestricted use of drugs by children and teenagers would result, probably, in increased mortality and disturbed metabolism among young children.

Public Protected against Fraud

The April issue of the *Maryland State Department of Health Monthly Bulletin* points out that the state bedding law closely parallels the food and drug laws in requiring proper labeling and sterilization. Enforcement of the law governing the labeling of articles of bedding and upholstered furniture protects both the buyer and the seller. James A. Beegan, Analyst of the Maryland State Department of Health, has found during his routine examinations, floor sweepings, bottle caps, and pieces of cement in the fillings of some mattresses.

Teen-Age VD Increasing

Syphilis, the most deceptive of all diseases, is on the rise again. Penicillin, which kills the spirochete, helped reduce VD cases in the U.S. from 677,071 in 1945 to 373,698 in 1955. But these statistics, according to social-hygiene experts, are misleading. A decrease in the number of detected and treated VD cases may not mean a decrease in the number of people who have this infection. Reliable estimates show that the rates for syphilis and gonorrhea, or both, are up in 43 states. Now available for the first time is a new set of VD figures covering an alarming incidence of syphilis and gonorrhea among adolescents.

In 1953, one out of every 200 teen-agers contracted gonorrhea. Teen-agers and young adults make up more than half the total VD case loads. One college boy of 18 told a public health worker: "I thought I was smart and knew all about venereal diseases, but I didn't. Is there any literature that will tell me all about it?"

At least 60,000 VD teen-age cases are reported each year. Since only one third to one fourth of the actual cases are reported, this means, by conservative estimate, that 200,000 boys and girls contract one of the venereal diseases each year.

NEW...a more potent, longer-acting progestational agent

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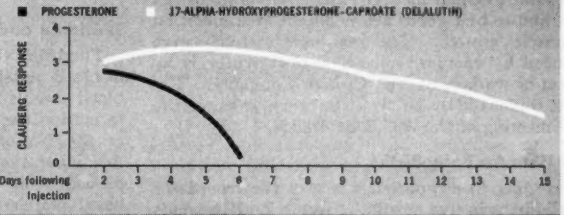
SQUIBB 17-ALPHA-HYDROXYPROGESTERONE-CAPROATE

A single injection provides sustained progestational activity for approximately 2 weeks, when enough estrogen is present, *simulating endogenous progesterone production.*

Comparative effect of single subcutaneous injection of Delalutin and progesterone on the progestational changes (Clauberg Test) in the rabbit uterus



more efficient, more convenient, more practical than other progestational agents in preventing abortion, habitual and threatened, and in restoring the manifestations of normal ovarian function in nonpregnant women

Vials of 2 and 10 cc. Each cc. provides 125 mg. of 17-alpha-hydroxyprogesterone-caproate.

SQUIBB

Squibb Quality—the Priceless Ingredient

"DELALUTIN"® IS A SQUIBB TRADEMARK

Progress in Medicine

Spiramycin—Clinical and Laboratory Studies

The antibiotic spiramycin, produced by a strain of *Streptomyces* isolated from French soil by Rohne-Poulenc Co. and supplied by Sharp & Dohme in 500-mg. oral tablets, inhibits pneumococci, streptococci, and staphylococci but the organisms are more sensitive to penicillin or erythromycin. Spiramycin was well absorbed when given orally in doses of 1 Gm. every six hours. It was well tolerated, with only two cases of diarrhea attributable to the antibiotic. Of 29 patients with bacterial pneumonia who were treated with spiramycin, 26 were afebrile within five days, two ran a more prolonged febrile course, and one patient with Friedlander's pneumonia failed to respond. Most strains of staphylococci resistant to penicillin or erythromycin were sensitive to spiramycin, but the usefulness of the latter in staphylococcal infections was not determined in the studies by Hudson, D. G., *et al.*, *A. M. A. Arch. Internal Med.*, **97**, 57(1956).

Halotestin—Androgenic Hormone

A synthetic oral male sex hormone (11β,17β-dihydroxy-9-α-fluoro-17-methylandrostene-3-one) named Halotestin, reported to be 10 times as potent an androgen as methyltestosterone and 20 times as potent in its ability to induce muscle growth, is now undergoing clinical trials. Another related steroid was found to equal methyltestosterone in androgen effect and to be three times as potent in stimulation of muscle growth. The two new steroids were produced by chemical-microbiological synthesis by a team of workers at The Upjohn Company. The report was made by Dr. J. C. Babcock, *et al.*, at the April meeting of the A.C.S. at Dallas.

Peak Hour for Baby Births

According to a reported study of the records of 33,215 births in five hospitals, Dr. P. D. King finds that the peak hour was 5 a.m. when 1,632 babies were born. The low hour was 7 p.m. with 1,103 births.

Cigarette Smoke Carcinogens

Dr. M. J. Lyons of the Royal Beatson Memorial Hospital, Glasgow, Scotland, reported in *Nature*, March 31, 1956, that he found the cancer-causing chemicals 3,4-benzpyrene and 1,2-benzanthracene in cigarette smoke, and that the rate at which the cigarettes were smoked did not affect these chemicals. A wide range of possible effects of these chemicals is visualized by Dr. Lyons, ranging from blocking each other to synergistic potentiation.

Nitrogen Mustard in Lung Carcinoma

Between 40 and 50% of 198 patients with advanced bronchogenic carcinoma obtained symptomatic relief with nitrogen mustard [methyl-bis(beta-chloroethyl)amine] therapy. This report by three physicians in *J.A.M.A.*, **160**, 1129(March 31, 1956), suggests that it is efficacious to repeat the course of nitrogen mustard at regular eight-week intervals regardless of the response to the first course of 0.1 mg./Kg. of body weight for four days. It appears that the combination of multiple courses of nitrogen mustard and deep roentgen-ray therapy will materially improve the therapeutic status of this type of carcinoma. This chemical is not carcinolytic and its beneficial effects are only transient.

Cancer Chemotherapy

At present the only cancer cures are achieved by surgery or radiation, but some forms of cancer, such as acute leukemia, are not amenable to these treatments. Other forms may be diagnosed only after they have spread throughout the body, too late to be benefited by either surgery or radiation. In such cases, chemical treatment appears to offer the greatest hope. Compounds now in use have been successful in prolonging the useful life of patients suffering from cancers of the breast and prostate, and cancers of the blood-forming tissues, such as leukemia and lymphoma, but these compounds are not curative.

The Public Health Service early in 1956 placed contracts with five laboratories for large-scale screening of chemical compounds in the search for drugs useful in treating cancer. Responsibility for supervising the contracts rests with the Cancer Chemotherapy National Service Center of the Public Health Service National Cancer Institute in Bethesda, Md. It is expected that the laboratories will test approximately 2,000 compounds by July.

Serotonin and Control of Bleeding

The belief that serotonin, found in the brain and in blood platelets and exhibiting power to constrict blood vessels, slows bleeding and encourages clot formation has been found questionable by doctors at the National Heart Institute, Bethesda, Md. Administration of reserpine to laboratory animals releases more than 90% of the serotonin from the blood platelets, but the time for wounds to stop bleeding in treated rats, rabbits, and guinea pigs is the same as for nonmedicated animals. The report by Drs. Shore, Brodie, Pletscher, Tomich, and Kunzamen will be published in *J. Pharmacol. and Exptl. Therap.*

Myorgal—Clinical Trials

Additional case reports on the use of Myorgal, formerly called Mysuran (see THIS JOURNAL, **16**, 465, 1955), indicate that few of the 33 patients with myasthenia gravis needed more than three or four 25-mg. tablets a day to note increased muscle strength. The report by Dr. M. R. Westerberg appears in *A.M.A. Arch. Neurol. and Psychiatry*, January 1956.

Action of Ecolid in Man

Clinical trials of Ecolid (chlorisondamine) in the treatment of hypertension are reported by Drs. F. H. Smirk and M. Hamilton (*Brit. Med. J.*, 319, Feb. 11, 1956). Ecolid was administered subcutaneously and orally to 28 patients, effects were observed, and results compared with those obtained with pentolinium. Both compounds are of the quaternary am-

monium type but Ecolid has only a 2-C bridge between asymmetric groups, while pentolinium has a 5-C bridge between symmetrical quaternary groups. Parenterally, Ecolid is slightly more than twice as potent as pentolinium, and they are similar in course of action. Patients showed drug toleration, so that daily increases in dose were necessary during the early stages of treatment. With development of toleration to Ecolid there develops a cross-toleration to pentolinium. The hypotensive effect of Ecolid is increased when the patient stands and also by meals. Ecolid is about 15 times as potent parenterally as orally. Three patients developed unfavorable reactions to the drug.

Tuberculosis Vaccine Trials

During two and one-half years of controlled trials involving 56,700 14–16 year-old boys and girls, the annual incidence of tuberculosis in a tuberculin-negative unvaccinated group was 1.94 per 1,000; in the B.C.G.-vaccinated group it was only 0.37 per 1,000; and in the vole-bacillus-vaccinated group only 0.44 per 1,000. The protection conferred by each vaccine was evident soon after it was given, was still substantial between two and two and a half years, and incomplete information indicates the protection is maintained for four years. Although B.C.G. vaccine has been used in humans for more than thirty years, this study by the Tuberculosis Vaccines Clinical Trials Committee of the Medical Research Council (*Brit. Med. J.*, 413, Feb. 25, 1956) is one of the few controlled trials undertaken. The trials indicate the value of vaccination of school children and are being continued.

Triple Drug Therapy in Renal Tuberculosis

Comparative studies of three groups of 20 patients with renal tuberculosis of equal severity showed that the combination of streptomycin (1 Gm. twice weekly), isoniazid (100 mg. thrice daily) and sodium aminosalicylate (5 Gm. thrice daily) given simultaneously and without interruption for one year was more effective than streptomycin plus isoniazid and far more effective than streptomycin alone. The combination of three drugs appeared to be more effective also in prostatic tuberculosis. Bed rest plus a high vitamin intake was combined with the chemotherapy. The report by four physicians appeared in *J.A.M.A.*, 160, 544(Feb. 18, 1956).

Glutamic Acid and Tubercle Bacillus

Dr. Max Dunn and associates, biochemists at the University of California, have discovered that the glutamic acid content of strains of tuberculosis organisms virulent for humans exceeds that of non-infective strains by more than 50 per cent on the average, and for other types of bacteria by nearly 70 per cent. Dr. Dunn is therefore searching for an antimetabolite for glutamic acid on the theory that effective therapy for the disease will be obtained.

Chemical Treatment Overcomes Parkinsonism Symptoms

A new method, called chemopallidectomy, was used on 125 parkinsonism patients, with good results in 70% of the cases, Drs. Cooper, Poloukhine, and Morello report in the April 28 issue of *J.A.M.A.* The procedure relieves the uncontrollable tremor and muscle rigidity of Parkinson's disease (also called "shaking palsy") and related disorders without impairing the ability to move. Some patients, who had been completely or nearly helpless, could walk, care for themselves, and even work after treatment. Chemopallidectomy consists of destroying a region in the globus pallidus, which lies in front of the thalamus. When the globus pallidus is diseased, it contributes actively to the development of tremor and rigidity. Procaine, injected into the area through a tube inserted into the brain, immediately relieves tremor and rigidity in the limbs. Later, alcohol is injected into the globus pallidus to complete the operation. Of the first 50 patients undergoing chemopallidectomy one and a half to two and a half years ago, 65% had good lasting results. Four procedures were unsuccessful, with two resulting in death.

Imoctetrazoline in Trichomoniasis

Laboratory tests showed imoctetrazoline 1-(*p*-chlorobenzyl)-5-imino-4-octyl-2-tetrazoline HCl) was more active against trichomoniasis than a number of drugs now being used clinically, such as anisomycin, chiniofon, gentian violet and sulfanilamide, according to a report by Dr. E. F. Elslager at the Dallas meeting of the A.C.S. Sixty-three tetrazoles were tested in the Parke-Davis laboratories and imoctetrazoline was found to be the most active against trichomoniasis killing bovine trichomonas at 0.04 mg. per ml. and human trichomonas at 0.056 mg. per ml. in one minute. Preliminary clinical trials "indicate that the drug has exhibited therapeutic effect in human trichomoniasis. It remains to be determined whether or not imoctetrazoline is superior to other available drugs."

Diethylcarbamazine in Filariasis

The effectiveness of diethylcarbamazine (Hetrazan) in the treatment of natives of Gambia, West Africa, infected with *Wuchereria bancrofti* (Bancroftian filariasis) is studied. The 122 infected persons treated with the drug (25 mg./Kg. of body weight) in February 1951, were examined again in December 1951, and November 1954. The percentage cured rose from 64.7% December 1951 to 73.8% in 1954. Of the 32 cases still infected in 1954, 46.8% appeared to have maintained their original infection, while 53.2% seemed to have "relapsed" after a period of apparent cure. The report is by I. A. McGregor and H. M. Gilles, *Brit. Med. J.*, 331 (Feb. 11, 1956).

Hydrocortisone—Absorption from Topical Applications

Suppression of ACTH production in the body by administration of Delta FF (delta-1,9-alpha-fluorohydrocortisone) prevents the adrenal glands from secreting natural hydrocortisone. Under these conditions any hydrocortisone in the blood would come from locally or topically applied preparations. Dr. G. W. Liddle, in the April issue of *J. Clin. Endocrinology and Metabolism*, used the procedure to find that only 2% of hydrocortisone was absorbed through the intact skin and that 26–29% was absorbed from vaginal and rectal mucous surfaces.

℞ information service

Members of the American Pharmaceutical Association are invited to submit their professional problems to The Journal, 2215 Constitution Ave., N. W., Washington 7, D. C. Inquiries should include all pertinent details.

Fluorescein Sodium Solution

What antibacterial agent other than benzalkonium chloride can be used in fluorescein sodium ophthalmic solution?—R. R. C., Pennsylvania.

Hind and Szekely, in THIS JOURNAL, **14**, 644 (October 1953), suggest the use of phenyl mercuric nitrate 1:25,000 as the preservative for fluorescein sodium solutions. Chlorobutanol 0.5%, phenylethyl alcohol 0.5%, and combinations of methylparaben and propylparaben have been used.

Lime Water Emulsion with Salicylic Acid

Would you please suggest a method for compounding this prescription.—J. L. S., Kentucky.

Menthol	*0.25%*
Phenol	
Salicylic acid aa	*1.00%*
Camphor	*3.00%*
Lime water	
Olive oil aa	*120.00 cc.*

Mix the menthol, phenol and camphor, then add and mix the salicylic acid. Add and mix 5% of polysorbate 80 U.S.P. (Tween 80, Atlas Powder Co.). Mix and shake the lime water and olive oil in a bottle to form an emulsion. Mix the Tween 80 mixture and the emulsion, agitating vigorously. The final admixture should be made in a mechanical mixer (hand homogenizer, milkshaker or Waring Blendor). If the final step is carried out in a bottle or a mortar, the emulsion will cream readily; whereas the mechanically mixed product will cream very slowly. The lower aqueous layer is instantly dispersed by shaking.

Wool fat (anhydrous lanolin) can be used (4 Gm. per ounce of olive oil) instead of the Tween 80. The wool fat should be dissolved in the oil. The rationale for inclusion of salicylic acid in a lime water emulsion is questionable.

Antiallergy Oral Tablet

Can you tell us who markets an oral tablet for pollen allergies?—A. O'B., District of Columbia.

Tablets containing spring-type (grasses) or fall-type (ragweeds) pollen antigens are manufactured by Sherman Laboratories. The tablets are administered orally for preseasonal hyposensitization and seasonal maintenance in spring or fall hay fever. They are supplied in treatment sets of 7 vials containing a total of 96 tablets, and maintenance dose tablets in bottles of 16, 50, 100, 500 and 1,000.

Thiamine in Alcoholism

Do you have any information on the use of thiamine hydrochloride as a deterrent to the excessive use of alcoholic beverages?—N. N., New York.

Although published reports indicate that thiamine is therapeutically effective in the treatment of conditions due to deficiencies of the vitamin caused by alcoholism, we have no evidence that prior administration of thiamine will act as a deterrent to the excessive use of alcoholic beverages. Taking something with the hope that it will have a deterrent action might have some psychologic effect.

Sterile Ophthalmic Solution

Calvin M. Massie of Hampton, Va., desires a method of preparing a safe and bacteria-free solution of boric acid to sell over the counter. His communication reads as follows.

Sirs:

A method is desired to prepare a safe and bacteria-free solution of boric acid to sell over the counter. In consideration of the facilities and equipment readily available in the average pharmacy, a solution was prepared as follows: an excess of boric acid crystals was added to cold, distilled water containing Zephiran chloride 1:5000 as preservative. The solution was thoroughly shaken a few minutes, allowed to settle, then filtered. After packaging in loosely capped bottles, these were placed in a suitable container with cover and boiled over medium heat for 30 minutes. After cooling, the caps were tightened and the bottles labeled for sale. My purpose is to learn if this procedure is acceptable and sufficient to allow the retail pharmacist a practical means of dispensing ophthalmic solutions of elegance and sterility, except for those containing heat-labile drugs.

Your suggestions are desired and will be much appreciated.

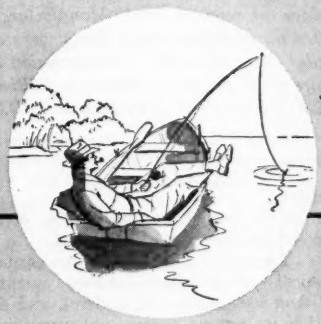
Editor's Note: It would seem that any solutions containing drugs that could be treated as you have indicated without undergoing decomposition should be suitable for dispensing. The use of Zephiran chloride would have to be considered in each case to avoid incompatibilities. The above solution might be free of viable organisms but it would require filtration through a bacterial filter to remove all bacteria and spores.

We doubt whether your compounding procedure would yield a solution of known concentration of boric acid.

May we refer you to the statement on "Ophthalmic Solutions" in *National Formulary*, tenth edition, page 700. See also "Compounding Ophthalmic Solutions," THIS JOURNAL, **16**, 742(Dec. 1955) for a practical consideration of this problem.

Important

NEW PRODUCT



Tranquillity

FOR THE PATIENT

Reserpine with Mebaral provides immediate and sustained tranquillity in anxiety and tension states, premenstrual tension, menopausal syndrome, essential hypertension, etc.

Activity

FOR THE PHARMACIST

Journal and direct mail advertising, detailing and sampling promote the advantages of Reserpine with Mebaral to physicians in your neighborhood. This means more prescription activity for you.

Keep adequate stocks on hand

Reserpine with Mebaral is supplied in bottles of 100 tablets.

NEW

RESERPINE with MEBARAL®

TABLETS

Winthrop LABORATORIES

1450 Broadway, New York 18, N. Y.

PHARMACEUTICALS IN DAILY DEMAND
ETHICALLY ADVERTISED AND DETAILED

Mebaral (brand of mephobarbital), trademark reg. U.S. Pat. Off.

NEW Prescription Products

All items on which information has been received in the past thirty days are reported here. Manufacturers are urged to send details of their new products as early as possible, so that pharmacists through these pages will have full information at the same time, or even before, products are detailed to the physician. For inclusion in this department, for which there is no charge, send descriptive literature to the Practical Pharmacy Edition, Journal of the American Pharmaceutical Association, 2215 Constitution Avenue, N.W., Washington 7, D.C.

Albumisol 25% Concentration

Description: A biological solution containing 25 Gm. of normal human serum albumin in each 100 cc. of buffered diluent. Each 100 cc. is osmotically equivalent to 500 cc. of whole plasma. The sterile, salt poor solution is stabilized but contains no preservative.

Indications: Replenishment of blood volume and treatment of nephrosis and hypoproteinemia.

Administration: Intravenously, initial dose is 100 cc. for adults and for emergency therapy in children. For nonemergency therapy in children, 25–50 cc. may be given.

Form Supplied: Vials of 20 cc. and vials of 50 cc. with intravenous set.

Source: Sharp & Dohme, Philadelphia, Pa.

Atarax Tablets

Description: Each green tablet (for adults) contains 25 mg. and each orange tablet (for children) contains 10 mg. of Atarax (hydroxyzine HCl).

Indications: For relaxing temporarily upset and tense individuals.

Administration: Adults, 25 mg. three times daily; children (over 6 years), 10 mg. twice daily.

Form Supplied: Both strengths in bottles of 100 tablets.

Source: J. B. Roerig & Co., Chicago, Ill.

Cordex Forte Tablets

Description: Each light lemon-yellow, scored tablet contains prednisolone, 1.5 mg.; and acetylsalicylic acid, 300 mg.

Indications: In rheumatoid arthritis and severe conditions affecting the musculoskeletal system.

Administration: Orally, 1 to 2 tablets immediately after each meal and at bedtime.

Form Supplied: Bottles of 100 and 500.

Source: The Upjohn Co., Kalamazoo, Mich.

Cortisporin Otic Drops

Description: Each cc. of sterile, slightly acid, aqueous solution contains: polymyxin B sulfate, 10,000 u.; neomycin, 5 mg.; hydrocortisone, 10 mg.

Indications: Otitis externa, aural inflammation, otitis media when the ear drum is perforated.

Administration: Three to four drops instilled 3 or 4 times daily, or saturated gauze or wick may be placed in aural canal.

Form Supplied: 5-cc. bottles with dropper.

Source: Burroughs Wellcome & Co. Inc., Tuckahoe, N.Y.

Cytomel Tablets

Description: Each tablet contains 5 mcg. or 25 mcg. of L-triiodothyronine, as the sodium salt.

Indications: Treatment of metabolic insufficiency causing physical sluggishness, slowed mental capacity and decreased emotional control, and decreased function in various organs and organ systems.

Administration: Initially, 25 mcg. daily; maintenance dose 50 mcg. daily. In geriatric patients, or children, or for male infertility, initial dose is 5 mcg. daily.

Form Supplied: Both strengths in bottles of 100 tablets.

Source: Smith, Kline & French Laboratories, Philadelphia, Pa. (See advertisement on page 445.)

Delalutin Injection

Description: A solution containing, in each cc., 125 mg. of 17-alpha-hydroxyprogesterone caproate in a vehicle of sesame oil 70% and benzyl benzoate 30%.

Indications: For many pregnancy and menstrual disorders benefited by progestational hormone.

Administration: An intramuscular injection of 250 mg. (2 cc.) produces a progestational effect on the estrogen-stimulated endometrium that lasts about 14 days.

Form Supplied: Vials of 2 cc. and 10 cc.

Source: E. R. Squibb & Sons, New York, N.Y.

Frenquel Tablets

Description: Each aqua blue tablet contains 20 mg. azacyclonal HCl [alpha-(4-piperidyl) benzhydrol HCl].

Indications: In acute schizophrenic hallucinations.

Administration: Orally, 20 mg. three times daily. Usually 24 hours or more elapse before clinical improvement occurs.

Form Supplied: Bottles of 100 tablets.

Source: The Wm. S. Merrell Company, Cincinnati, Ohio.

Hydeltracin Topical Lotion

Description: Each cc. of lotion contains 2.5 mg. Hydeltra (prednisolone) and 2.5 mg. neomycin sulfate, with 5% isopropyl alcohol.

Indications: Treatment of allergic and inflammatory dermatoses.

Administration: Locally, two or three times daily.

Form Supplied: 15-cc. plastic bottle.
Source: Sharp & Dohme, Philadelphia, Pa.

Poliomyelitis Vaccine
Description: An aqueous preparation of types 1, 2, and 3 poliomyelitis virus (combined in approximately equal proportions) grown in monkey tissue culture and treated with formaldehyde in accordance with N.I.H. requirements.
Indications: For active immunization of susceptible children and adults against paralytic poliomyelitis.
Administration: Intramuscularly or subcutaneously as directed.
Form Supplied: 9-cc. vials.
Source: Sharp & Dohme, Philadelphia, Pa.

Reserpine with Mebaral Tablets
Description: Each tablet contains reserpine 0.15 mg. and mephobarbital 30 mg.
Indications: In anxiety and tension states, premenstrual tension. Menopausal syndrome, essential hypertension, and angina pectoris.
Administration: One tablet three times daily.
Form Supplied: Bottles of 100.
Source: Winthrop Laboratories, New York, N.Y.
(See advertisement on page 481.)

Sandostene Tablets
Sandostene + Calcium Injection
Description: Each tablet contains 25 mg. methylaminophenylthenylpiperidine tartrate. Each 10-cc. ampul contains 50 mg. of the drug with 1,375 mg. calcium gluconogalactogluconate (Neo-Calglucon).
Indications: For relief of itching due to many dermatoses.
Administration: Tablets, 1 or 2 orally, two to four times daily; children (1–15 years) 1–4 tablets daily. Ampuls, intravenously to adults only, 10 cc. daily. Combine therapy for most rapid antipruritic effect. *Note:* After i.v. injection of 5–10 cc., some nausea, vertigo, and sensation of heat may occasionally be observed. Ambulatory patients should be advised against operating a car or moving machinery for two hours after injection.
Form Supplied: Tablets, bottles of 100. Injection, 10-cc. ampuls.
Source: Sandoz Pharmaceuticals, Hanover, N.J.

Other New Products

(Including chemicals, clinical trial drugs, diagnostic aids, and equipment for the retail and hospital pharmacy.)

Aci-Derma Lotion
An aqueous emulsion containing glyceryl monostearate, cetyl alcohol, sodium lauryl sulfate, propylene glycol, propyl and benzyl parahydroxybenzoates, and buffered to *p*H 2–3, is marketed by *I. E. Princer Pharmaceuticals* as a sudsing, soapless skin cleanser or lotion. Available in 4-oz. plastic bottles.

Almetrifon Germicidal Detergent
Almetrifon Germicidal Detergent, a concentrated aqueous preparation containing benzethonium chloride 2.5% and a nonionic detergent, is recommended as a cleansing agent for dressing wounds, lacerations, and infected skin surfaces. When diluted (1 tablespoon to 1 quart water) it is effective as a germicide and vaginal cleansing agent. Undiluted it can be employed as a swab in the cleansing of the cervix. Available in 8-oz. and 1-gal. bottles from *Meyer and Company.*

Aquavac Newcastle Disease Vaccine
Aquavac Infectious Bronchitis Vaccine
Lederle Laboratories has marketed two preparations, Aquavac vaccines, that can be added to drinking water to immunize healthy poultry of any age, including day old chicks, against Newcastle disease and infectious bronchitis. Both preparations are available in vacuum sealed, 500- and 1,000-dose vials.

Ascorutin-Bio Tablets
Yellow tablets containing, in each, ascorbic acid, 100 mg.; rutin, 25 mg.; and hesperidin, purified (bioflavonoid), 100 mg., recommended for conditions in which abnormal capillary fragility and permeability influence the course of disease, are marketed by *U.S. Standard Products Company.* Dosage is two tablets three times a day for one week, then one tablet three times daily. Available in bottles of 100 and 1,000.

Benoquin Lotion
A lotion containing 5% monobenzyl ether of hydroquinone (monobenzone) in an isopropyl alcohol-propylene glycol vehicle has been marketed the *Paul B. Elder Company.* The lotion, like the 20% ointment, is used for the topical treatment of hyperpigmentation caused by increased amounts of melanine. The lotion is especially recommended in severe freckling and chloasma. It is supplied in 4-oz. bottles.

Bentyl Hydrochloride Injection, 10-cc. Vial
The injection containing 10 mg. of dicyclomine HCl in each cc. is now marketed by *The Wm. S. Merrell Company* in 10-cc. multiple-dose vials in addition to the 2-cc. ampuls.

Bufazo Capsules
Orange and blue capsules, each containing: sulfacetamide, 125 mg.; sulfamethazine, 125 mg.; and phenazopyridine HCl, 65 mg., and buffered to *p*H 4.5–5.0 with sodium citrate and citric acid, are marketed by *Sutliff & Case Co., Inc.,* who recommended them for treatment of urinary tract infections. The capsules are available in bottles of 100 and 1,000.

Citra Capsules
Capsules for the common cold, marketed by *Boyle & Company,* contain in each: hesperidin, 100 mg.; vitamin C, 50 mg.; phenylephrine HCl, 5 mg.; prophenpyridamine maleate, 6.25 mg.; methapyrilene HCl, 8.33 mg.; pyrilamine maleate, 8.33 mg.; salicylamide, 200 mg.; acetophenetidin, 120 mg.; and caffeine, 30 mg. Dosage is one capsule every four hours; half dosage for children 6 to 12. Available in bottles of 100 and 1,000 capsules.

Citra Cough Syrup
A syrup marketed by *Boyle & Company* contains in each 5 cc.: dihydrocodeinone bitartrate, 1.66 mg.; hesperidin methyl chalcone, 8.33 mg.; phenylephrine HCl, 2.5 mg.; vitamin C, 30 mg.; prophenpyridamine maleate, 2.5 mg.; pyrilamine maleate, 3.33 mg.; and potassium citrate, 150 mg.; with alcohol 2%. Dosage is 1 to 2 teaspoonfuls every three

NEW *Prescription Products*

or four hours, not more than six times a day; children 6 to 12 years, 1/2 dosage. Available in pints and gallons.

Diovac Syrup and Pediatric Syrup

Syrups containing dioctyl sodium sulfosuccinate and sodium benzoate (flavored mint for adults, cherry for pediatric) are marketed as stool-softeners by *Gray Pharmaceutical Company*. Dosage for constipation is: adults and children 6 years and over, 1–2 teaspoonfuls daily followed by water. Available in 6-oz. (adult) and 4-oz. (pediatric) bottles.

Florinef-S Ophthalmic Ointment and Suspension

A combination of anti-inflammatory, antiallergic hydrocortisone and antibiotic neomycin-gramicidin for use in eye disorders is marketed by *E. R. Squibb & Sons*. Available as ointment in 3.6-Gm. tubes with tip and as suspension in 5-cc. plastic dropper bottles.

Fostex Cream
Fostex Cake

Medication for dandruff and other seborrheic skin conditions is marketed by *Westwood Pharmaceuticals* as a cream (4.5-oz. jar) for shampooing and cleansing and as a cake. Both products contain a mixture of anionic soapless wetting agents (Sebulytic), sulfur 2%, salicylic acid 2%, and hexachlorophene 1%.

Gelcomul Suspension

A flavored suspension containing 1/8 gr. codeine phosphate in each fluidounce in addition to kaolin, pectin, sodium carboxymethylcellulose, and zinc phenolsulfonate is marketed by *Commerce Drug Co., Inc.* The exempt narcotic preparation is recommended for simple diarrhea.

Geralin Capsules

A formulation of 12 vitamins, 12 minerals, lipotropic agents, amino acids, and bioflavonoids, as a dietary supplement in geriatrics, is marketed by *Walker Laboratories, Inc.* The daily dose is two capsules. Available in bottles of 100 and 1,000.

Hescor Tablets

A hesperidin and ascorbic acid combination for maintaining normal capillary function is available from *Haug Drug Co.* in bottles of 100 tablets.

Mediatric Tablets

Ayerst Laboratories announce the addition of tablets to their Mediatric capsules and liquids. Each tablet provides: conjugated estrogens equine (Premarin), 0.25 mg.; methyltestosterone, 2.5 mg.; vitamin C, 50 mg.; thiamine mononitrate (B_1), 5 mg.; vitamin, B_{12} with intrinsic factor concentrate, 1/6 U.S.P. Unit; folic acid, 0.33 mg.; ferrous sulfate exsic., 60 mg.; brewers' yeast (specially processed), 200 mg.; *d*-desoxyephedrine HCl, 1 mg. Available in bottles of 100 and 1,000 tablets.

Meratran Tablets 2.5 mg.

Yellow tablets, each containing 2.5 mg. of pipradol HCl, are marketed by *The Wm. S. Merrell Company* in bottles of 100. Their pink 1-mg. Meratran tablets are marketed in bottles of 100 and 1,000.

Neobile Tablets

A cholagogue, choleretic, and digestant combination for chronic constipation and flatulent indigestion is available in bottles of 100 tablets from *Haug Drug Co.*

Opal Ointment Jars

Lighter weight, tall shape, opal ointment jars are now marketed by *Owens-Illinois*. Available in 1/2-, 1-, 2-, 3-, and 4-ounce sizes. (See advertisement on page 425.)

Pabirin AC Capsules

Red and yellow capsules containing, in each: hydrocortisone, 2.5 mg.; aspirin, 300 mg.; *p*-aminobenzoic acid, 300 mg.; and ascorbic acid, 50 mg., are marketed by *Smith-Dorsey*. For resistant cases of arthritis and rheumatism, initial dosage is 1 or 2 capsules after each meal and at bedtime. Dosage should be reduced gradually. Available in bottles of 50 capsules.

Persistin Tablets

Light yellow, scored, uncoated tablets containing, in each: acetylsalicylic acid, 160 mg. (soluble), and salicylsalicylic acid, 480 mg. (insoluble) have been marketed by *Sherman Laboratories* for relief of pain and distress during sleep and of other types of pain responsive to salicylates. It is claimed that analgesic levels of salicylate persist in the blood for 5–8 hours following a single dose. Dosage: adults, 3 tablets before retiring; children 2–4 years, 1/2 tablet; 5–9 years, 1 tablet; 10–12 years, 1 1/2 tablets; 13 or over, 2 tablets. Available in bottles of 90.

Piptal Pediatric Liquid

A liquid containing the cholinolytic Piptal (N-ethyl-3-piperidyl-benzilate methobromide) and phenobarbital for relief of pain and smooth muscle spasm of infants' colic, pylorospasm, spitting, regurgitation and cardiospasm has been marketed by *Lakeside Laboratories*. Available in 30-cc. bottles.

Pomalin Liquid

A liquid containing, in each teaspoonful, sulfaguanidine, 2 Gm.; pectin, 225 mg.; kaolin, 3 Gm.; and opium tincture, 0.08 cc., has been marketed for the treatment of diarrhea by *Winthrop Laboratories*. This exempt narcotic preparation is available in 16-oz. bottles.

Portable Cardiac Emergency Kit

A newly developed portable Cardiac Emergency Kit for use by general practitioners, hospitals, ambulances and emergency rooms is now available at cost through the Essex County, N.J., Heart Association. The kit is outfitted with clamps to hold 34 drugs and equipment for their use. It also contains a brief outline of diagnosis and therapy for 13 most common emergency cardiac conditions, written by Dr. Jacob J. Silverman of Staten Island, Dr. Arthur Bernstein of Newark, and Dr. Harold B. Trachtenberg of New York City. The kit, manufactured to the Heart Association's specifications by the William Bal Corporation, Newark luggage manufacturer, weighs approximately eight pounds empty. It is 16 inches long, 12 inches deep, and six inches wide. The kit is supplied without drugs, but with complete listing of the necessary materials and medications to equip it.

Pradase Tablets

Tablets recommended as digestive aids and containing, in each, ox bile extract, 150 mg.; ketocholanic acids, 60 mg.; pancreatin, 300 mg.; betaine HCl, 90 mg.; carminative spice oils, 0.1 minim, are marketed by *E. S. Miller Laboratories, Inc.* Available in bottles of 90 and 1,000 sugar-coated tablets.

Pryme Capsules

Field Laboratories, Inc., has marketed capsules containing vitamins, minerals, sex hormones, amino acids, digestive enzymes, and capillary antihemorrhagics which are claimed to be suited to the requirements of elderly patients. Supplied in bottles of 100 light and dark blue capsules.

Raurine Tablets 0.5 and 1 mg.

Tablets containing, in each, 0.5 mg. (peach color) or 1 mg. (gray) of reserpine have been added to the 0.1-mg. (green) and 0.25-mg. (yellow) tablets marketed by *Lloyd, Dabney & Westerfield, Inc.*

Rectal Desitin Ointment

An ointment containing cod liver oil, zinc oxide, lanolin, talc, sodium lauryl sulfate and petrolatum is marketed by *Desitin Chemical Company* for relief from simple internal hemorrhoids, irritation or inflammation. Available in 1.5-oz. tube with applicator.

Reserpoid Tablets 4 mg.

The Upjohn Company has marketed cross-scored tablets containing, in each, 4 mg. of reserpine. Recommended for psychiatric use only, the 4-mg. tablets are available in bottles of 100, 500, and 1,000.

Rhulispray Aerosol

A spray-on suspension, for relief of itching and pain due to ivy and oak poisoning and other minor skin irritations, contains: zirconium oxide 1%, menthol 0.009%, camphor 0.098%, calamine 0.98%, benzocaine 0.98%, and isopropyl alcohol 9.5%, in addition to propellant. Available in 3-oz. aerosol dispenser from *Lederle Laboratories.*

Roxel Elixir

A combination of reserpine with B vitamins, to provide a nutritive supplement and tranquilizing liquid preparation, is marketed by *Sharp & Dohme.* Each tablespoonful contains reserpine, 0.1 mg.; vitamin B_1, 5 mg.; vitamin B_6, 5 mg.; vitamin B_{12}, 25 mcg.; and nicotinamide, 10 mg. Supplied in pint bottles.

Solvilith Tablets

Tablets containing, in each: salicylamide, 600 mg., and vitamin A (acetate), 10,000 units, are marketed by *E. S. Miller Laboratories, Inc.* The dose for the treatment of recurrent phosphocalcic urinary lithiasis is one tablet before each meal. Available in bottles of 100 and 1,000.

Steclin Syrup

Squibb's tetracycline is now available in sweetened, unflavored suspension as Steclin Syrup, intended particularly for administration to children or to adults who have difficulty in taking capsules or tablets. It is especially useful in treating mixed infections. Available in 2-oz. bottles, the syrup is stable for 18 months at room temperatures.

Tashan Cream

A multivitamin cream for skin irritations, providing in each Gm.: vitamin A, 10,000 u.; *d*-panthenol, 50 mg.; vitamin D_2, 1,000 u.; vitamin E (*dl*-alpha-tocopheryl acetate), 5 mg., has been marketed by *Hoffmann-LaRoche Inc.* Available in 1-oz. tubes. (See advertisement on inside back cover.)

Testavol-S Capsules

Capsules containing water-solubilized synthetic vitamin A palmitate in 25,000 and 50,000 units per capsule are marketed by *Testagar & Co., Inc.* Both strengths are available in bottles of 100 and 1,000 capsules.

Thiamine Mononitrate, Free-Flowing

Merck & Co., Inc., has made available to pharmaceutical manufacturers new forms of thiamine mononitrate, medium crystals (30–80 mesh) and extra-fine crystals (100 mesh), having about twice the density, or half the bulk, of the thiamine powders currently being used. The two new forms, together with the 325-mesh powder previously marketed permit ease of handling for dry formulations and other preparations of vitamin B_1.

Titralac–SP

Each pink tablet contains 0.18 Gm. glycine, 0.42 Gm. calcium carbonate, and 0.5 mg. homatropine methyl bromide. In the treatment of peptic ulcer and the more severe gastrointestinal disturbances in which spasm or hypertonicity and increased motility are clinically a problem, the recommended daily dose of Titralac-SP is six tablets in 24 hours. Available in bottles of 100, from *Schenley Laboratories, Inc.*

Tolagesic c̄ Codeine Tablets

Tablets containing, in each: mephenesin, 300 mg.; salicylamide, 300 mg.; and codeine phosphate, 15 mg., are marketed for treatment of moderate to severe pain by *E. S. Miller Laboratories, Inc.* The dose is 1 or 2 tablets every 3–4 hours. Tolagesic c̄ Codeine ($^1/_4$ gr.) is available in bottles of 100 and 1,000 tablets.

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